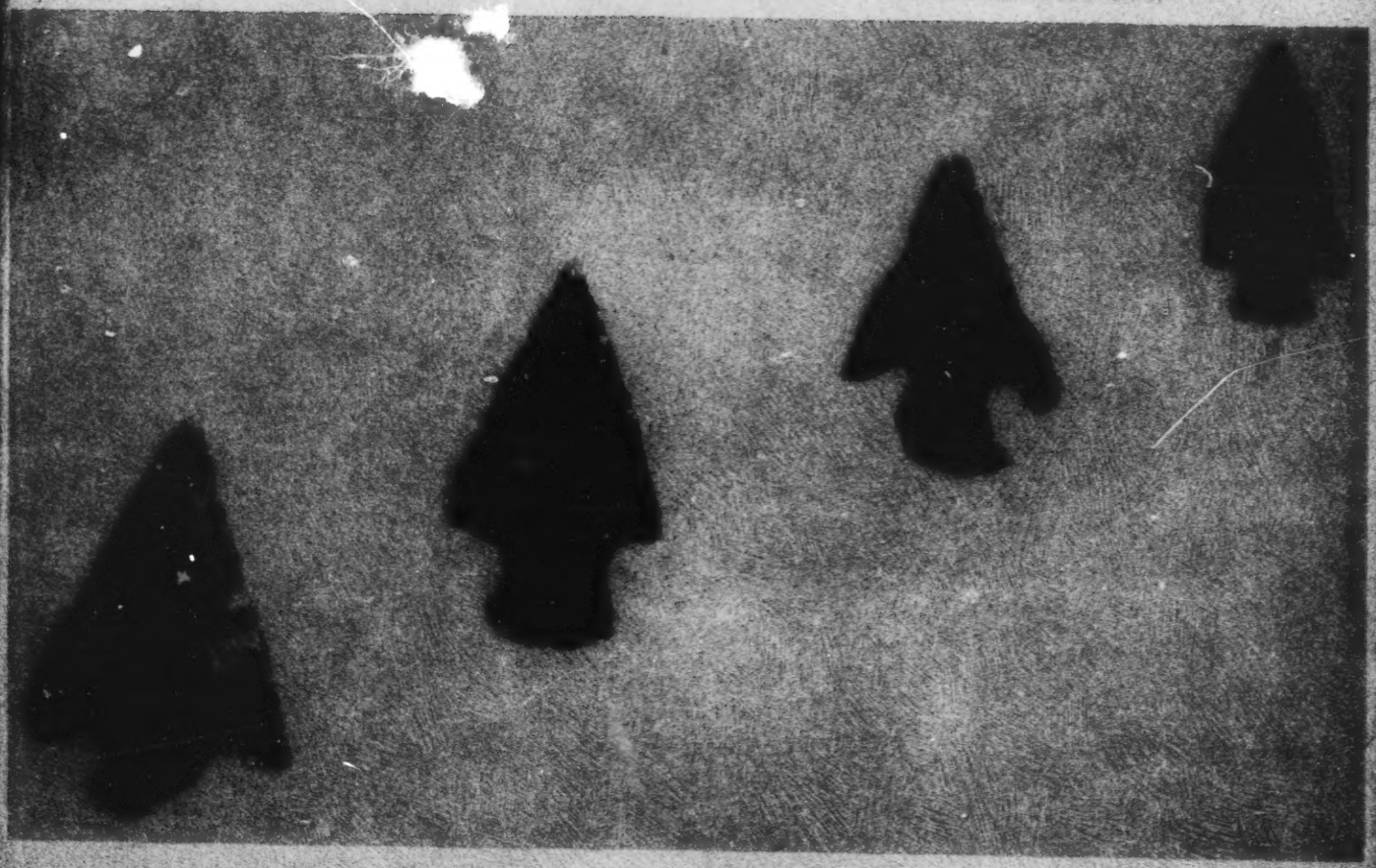
ARCHAEOLOGY IN NEWFOUNDLAND & LABRADOR 1983

EDITED BY
JANE SPROULL THOMSON
CALLUM THOMSON



ANNUAL REPORT No. 4
AND INDEX 1980-83

HISTORIC RESOURCES DIVISION
DEPARTMENT OF CULTURAL, RECREATION & YOUTH
GOVERNMENT OF NEWFOUNDLAND & LABRADOR

85-3593/

ARCHAEOLOGY IN NEWFOUNDLAND AND LABRADOR - 1983

Annual Report #4

Edited by: Jane Sproull Thomson
Callum Thomson

Historic Resources Division
Department of Culture, Recreation and Youth
Government of Newfoundland and Labrador
St. John's, Newfoundland
February, 1984

Cover photo by Jack Martin, ETV, Memorial University:
The projectile point at lower left is a Little Passage point from Inspector Island (DiAq-2) found in association with charcoal dated at 690±40 B.P. The other three are late 17th/early 18th century Beothuck projectile points from Boyd's Cove (DiAp-3). (See Pastore, this volume).

ISBN 0715-2086

TABLE OF CONTENTS

ARCHAEOLOGY IN NEWFOUNDLAND AND LABRADOR (map).....i

INTRODUCTION.....1
Jane Sproull Thomson

THE NEWFOUNDLAND AND LABRADOR ASSOCIATION OF AMATEUR ARCHAEOLOGISTS: REPORT OF THE YEAR'S ACTIVITIES.....4
Julia Mathieson

RESIDENCE PATTERN DEVELOPMENT IN THE LABRADOR MARITIME ARCHAIC: LONGHOUSE MODELS AND 1983 FIELD SURVEYS...6
William W. Fitzhugh

MARITIME ARCHAIC OCCUPATION OF BIG ISLAND, SAGLEK BAY: A PRELIMINARY REPORT.....48
J. Callum Thomson

ARCHAEOLOGICAL INVESTIGATIONS AT RED BAY AND BLACK BAY, LABRADOR.....55
Ralph Pastore and Reginald Auger

1983 EXCAVATIONS AT RED BAY, LABRADOR.....70
James A. Tuck

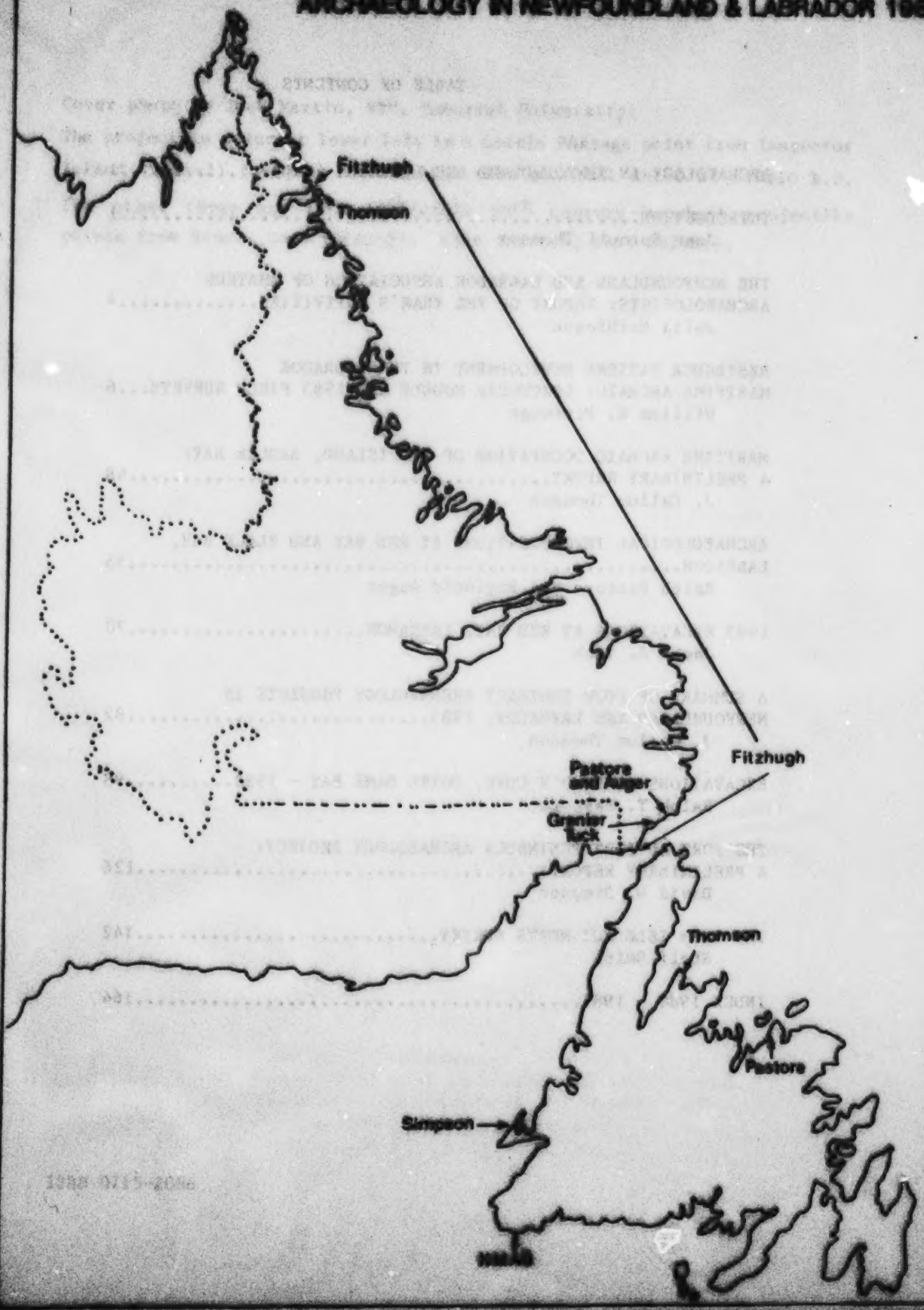
A SUMMARY OF FOUR CONTRACT ARCHAEOLOGY PROJECTS IN NEWFOUNDLAND AND LABRADOR, 1983.....82
J. Callum Thomson

EXCAVATIONS AT BOYD'S COVE, NOTRE DAME BAY - 1983.....98
Ralph T. Pastore

THE PORT AU PORT PENINSULA ARCHAEOLOGY PROJECT: A PRELIMINARY REPORT.....126
David N. Simpson

THE 1983 ISLE AUX MORTS SURVEY.....142
Sheli Smith

INDEX 1980 - 1983.....164


Fitzhugh
Thomson
Fitzhugh
Pastore and Auger
Granter Rock
Thomson
Pastore
Simpson

INTRODUCTION

Jane Sproull Thomson
Provincial Archaeologist

Cutbacks in government spending and declining university enrollment here, as elsewhere, contributed to a somewhat smaller number of research projects in the province in 1983. However, several continuing programs and a single new one have given us new insights into the province's history and prehistory. The reports from the 1983 fieldwork season, as in the three previous volumes, are intended to serve as initial statements on work in progress and not as the researchers' final ideas on the subjects covered. It is expected that more lengthy documents eventually will be produced by each researcher which will contain more definitive information. An addition to this year's publication is the Index for which we have separately listed the subjects to be found in this and the three previous reports.

The 1983 season saw continued work on the important undisturbed section of the Boyd's Cove Beothuk site. Pastore's new information on the early historic Beothuk and the possible proto-Beothuk component of the Boyd's Cove site supports Penney's (1981) Little Passage-Beothuk continuum; Pastore's suggested projectile point sequence for these "recent Indians" is featured on the cover. In Northern Labrador, Fitzhugh has compiled sufficient data from his Maritime Archaic sites to propose major new interpretations on house and community development. Continuing investigations by Tuck and Grenier at Red Bay, Pastore and Auger along the Belle Isle coast, by Thomson at Saglek Bay and Fleur de Lys and MHAS at Isle aux Morts are contributing further information to known sites, while Simpson's work on the Port au Port peninsula has refined and expanded upon Carignan's 1975 work there.

The Historic Resources Division's provincial archaeologist continues to operate on a part-time basis out of the curator's office at the Newfoundland Museum. In 1984 we will begin a program to enter updated site records in the Canadian Heritage Information Network (CHIN). This computer system takes over from the National Inventory Program and will

allow museums and galleries across the country to utilize the computer for in-house management as well as information retrieval from a national network. Following input of the Newfoundland and Labrador site records (approximately 1,000), entry of enthnological and archaeological artifacts will begin. Among the categories on the site record forms will be a listing of the site's condition, present and projected, which, combined with the new Pictorial and Artifact Retrieval and Information System (PARIS) capabilities, will assist the Historic Resources Division in expanding its program of site management. Policies will be developed to tie in our fieldwork grants to this program, and it can be foreseen that future grants will be awarded on a "site needs" basis which will incorporate overall development aims with site attrition problems. In the 1983-84 fiscal year, the Newfoundland and Labrador Government fieldwork grants were cut by nearly 30%. It is doubtful whether funding will approach the 1982 level in the next fiscal year, or for some time to come. Thus in the future it is imperative that we utilize the available funding to maximize site conservation and management. Researchers who wish to pursue what the records indicate to be low-priority fieldwork will be encouraged to seek other available sources of funding.

In other business the Division received 21 development registrations from the Department of Environment for review under the Environmental Assessment Act. Five of these were deemed potentially damaging to archaeological sites, and the proponents advised to prepare a historic resources impact assessment. Currently the provincial archaeologist sits on twelve intergovernmental assessment committees. During 1983 the Historic Resources Division also examined approximately 20 land applications and 150 quarry applications in order to ensure that these development operations would not endanger known archaeological sites. Quarries usually do not fall under the environmental assessment legislation and these applications can only be assessed in regard to known sites, that is to say surveys are not normally feasible.

For individuals interested in obtaining a schedule of undertakings subject to registration under this Act, as well as the draft regulations for the Act, these may be requested from the Environmental Assessment Division, Department of Environment, Elizabeth Towers, St. John's, New-

foundland. New permit requirements are currently in preparation and will be in place for the 1984 season, although some provisions of the requirements will be delayed in order to give researchers time to accommodate them without undue hardship.

The "Introduction to Archaeology" course was again offered to the general public through the YMCA, and an enthusiastic group responded. The Amateur Archaeology Association (NLA^3) recruited a number of the course graduates and continues a lively programme which includes opportunities for professional archaeologists to exchange information with interested laymen (see Mathieson, this volume). The assistance of the Anthropology Department at Memorial University and especially Douglas Robbins, James Tuck, and Valerie Andrews in production of this year's Report, is gratefully acknowledged.

GRANTS

Grants made by the Historic Resources Division for 1983:

FITZHUGH, William - Torngat Project	$5,000.00
PASTORE, Ralph - Strait of Belle Isle survey.....	795.00
SIMPSON, David - Port au Port Peninsula survey....	5,500.00
THOMSON, Callum - Saglek Bay survey.....	3,000.00
TUCK, James - Red Bay excavations.....	3,600.00
TOTAL	$17,895.00

THE NEWFOUNDLAND AND LABRADOR ASSOCIATION OF AMATEUR ARCHAEOLOGISTS

REPORT OF THE YEAR'S ACTIVITIES

Julia Mathieson

The Newfoundland and Labrador Association of Amateur Archaeologists (NLA^3) was founded in January 1983. It arose out of a series of lectures given by Jane Sproull Thomson and Callum Thomson in the Fall of 1982 at the YW-YMCA. The association was founded by a small group of people with a keen interest in archaeology, all of whom wanted to increase their knowledge of and exposure to the discipline.

The founding six members first set out to write a constitution, to set up guidelines and aims and to arrange a series of lectures. All of this was accomplished in the first month.

The aims of NLA^3 are to develop good relations with professional archaeologists, to promote the study of archaeology through lectures, publications and tours, to establish a link with other associations across the country and to develop a "site watch" program in the province (Constitution, 1983).

The objectives of NLA^3 are: a) protect, insofar as is possible, archaeological sites in the province, b) to collaborate with other organizations and agencies that serve the same purpose as those of this association, c) to work for the proper conservation and exploration of archaeological sites and materials, d) to promote public interest in and understanding of archaeology and anthropology, and e) to promote the study of archaeology and anthropology (Constitution, 1983).

In the twelve months since our founding, we have had ten meetings including lectures by James Tuck, Ralph Pastore, Jane Sproull Thomson, Stuart Brown, Callum Thomson, Ingeborg Marshall, and Jeannette Barber covering excavations at Red Bay, Boyds Cove, Red Indian Lake, Sri Lanka and Saglek Bay, as well as such topics as archaeology and the law, Beothuk canoes, and marine archaeology. As well we have had two evenings of archaeological movies. The response from the professional community has been immediate and encouraging, for which the Executive is most

grateful.

During the summer of 1983 NLA3 led a tour to several of Newfoundland's prime archaeological sites, including L'Anse aux Meadows, Fleur de Lys and Red Indian Lake. It was a five day tour and although the visits to each site were short, the trip was enjoyed by the participants. Also during the summer one of our members worked with Callum Thomson labelling artifacts. Her work was rewarded one day when she found significant artistic markings, formerly unnoticed, on one of the artifacts.

In summing up the year's progress, I feel that NLA^3 has made a good start with solid backing from professional archaeologists and a growing interest among our members and some members of the general public. We look forward to another year of learning about our favourite subject, to increased communication with similar minded groups and to giving further assistance to the professionals.

I wish to thank all those aforementioned who spoke to our association during the year and to Jane Sproull Thomson for her continued help and encouragement.

NLA^3
P.O. Box 8214
Station "A"
St. John's, Newfoundland
A1B 3N4

RESIDENCE PATTERN DEVELOPMENT IN THE LABRADOR MARITIME ARCHAIC: LONGHOUSE MODELS AND 1983 SURVEYS

William Fitzhugh
Smithsonian Institution

During the past three years, advances in Maritime Archaic research in Labrador have led to new interpretation on the development of domestic architecture and socio-political organization from 7000-3500 B.P. (Fitzhugh 1981a, b). These ideas have been stimulated by discoveries at two sites: a series of boulder structures stratified on elevated beaches at Aillik, and a northern Labrador habitation site containing large rectangular structures and other features at Nulliak Cove, 70 km south of the Ramah chert quarries. These sites provide keys to understanding Maritime Archaic residential and site organization and the development of these patterns through time. Further, the linear, repetitive nature of the architectural form provides a model for analyzing archaeological deposits at sites where evidence of dwelling structures is absent.

The Longhouse Model

The search for Maritime Archaic dwelling structures began in Groswater Bay in the early 1970's. Although large depressions had been found in boulder fields on high beaches at a number of localities, the absence of diagnostic tools and identifiable features within these structures made cultural attribution and interpretation difficult. At first, evidence from several sites pointed tentatively toward an Inuit origin (e.g. Fitzhugh 1972:89; Martijn 1974:115). But as more high elevation boulder pithouses were found in outer island locations at or near Maritime Archaic sites, it seemed likely that these structures and the artifact locations nearby were culturally associated (Fitzhugh 1978:82). At the recent end of the Maritime Archaic sequence it was expected that sites like Rattlers Bight, with its large numbers of artifacts and features, would provide information on house types, site organization, and artifacts. However, this approach proved equally frustrating; while Rattlers Bight yielded abundant information on cultural assemblages and hearth features, no

trace of domestic architecture and residential patterns were noticed (Fitzhugh 1980).

In 1978 this deadlock was broken with the discovery of house foundations on raised boulder beaches at Aillik, a prominent cape between Makkovik and Postville. These structures demonstrated consistent changes in form as one proceeded from the highest, early beaches to the lower, more recent ones. At the 36 m level at Aillik 3 (GhBt-4), three circular pithouses were found with small conical cache pits and other features. Similar structures occur on high beaches at Aillik West 1 and Kaipokak Bay 1 (GgBt-1; Figure 1). Unfortunately, these sites did not yield diagnostic artifacts, and their cultural affiliations remained hypothetical. The most interesting data came from the long beach sequence at Aillik 2 (GhBt-3); Figure 2). Here, oval and rectangular structures were found on beaches ranging from 24-18 m above sea level. Below this elevation, rectangular structures disappeared. The next lowest suitable habitation area, on the 10 m beach, contained a Paleo-Eskimo structure dating to 3,000-2,500 years ago.

The Aillik 2 sequence may be described briefly as follows. Two structures, S6 and S7, were found at 21 m. The smaller, single room structure, S6, was sub-rectangular and had internal dimensions of 2 x 3 m. Its long axis paralleled the beach ridge. The larger structure, S7, was sub-divided into two compartments excavated 25 cm into the beach and separated from each other by a low ridge of boulders. Its external walls, about 1-2 m wide, consisted of a 10-20 cm high mound of rocks which had been removed from the interior of the structure. At a slightly lower elevation was a rectangular structure, S5, with three internal ridges dividing the structure into four segments, whose floors and walls were constructed as noted above. S3 and S4, located on a still lower terrace, were similar to S5. S3 was about 20 m long and had four (or possibly five) segments. The lowest and largest structure, S2, was on the 18 m beach (Figure 3). This structure was more deeply excavated than the others and measured 4 x 28 m. It had six clearly marked dividers and suggestions of three others, creating a minimum of seven and a maximum of ten segments. Rock features suggestive of post supports and hearths occurred at regular intervals inside the walls. Around the outside

wall were ten small conical cache pits, about the same number as the number of internal segmented spaces. The position of these caches suggests they were used as private larders for the occupants of individual room segments.

The structures on the Aillik beaches share a number of common features. Except during the pithouse period, they are oriented with their long axis parallel to the active beach and frequently have their rear walls placed against the front of the next highest beach or terrace front. Foundation walls are composed of a low mound of rocks derived from excavating or clearing the floors inside the structures. Partitions between segments consist of remnant platforms of unmodified beach surface. Small cache pits are located adjacent to room segments near the outside walls. As is usual with sites on boulder beaches, other cultural remains are difficult to find. However, Structure 2, the lowest and largest structure of its type at Aillik 2, contained a few flakes of quartz and a Maritime Archaic celt.

Dating the Aillik sequence is difficult because these rocky beaches do not have fine surface sediments. Whatever traces of activity once existed have disappeared into the interstices between the rocks. Geological dating is hampered by the absence of a local uplift curve for this region. Nevertheless, by extrapolation from other areas (Fitzhugh 1977:483), the 23-26 m elevations were probably at sea level about 6,000-7,000 years ago, and the 18 m high S2 beach 5,000 years ago. Tentative confirmation of these estimates has come from a 5210±270 B.P. (Beta 5746) date obtained from a three-segment structure at Aillik West 1, similar in form to S5 at Aillik 2.

The Aillik data also point toward a functional explanation of these structures as dwellings. The size and the repetitive nature of internal compartments, hearths, tool assemblages, and debitage suggest that the structures were occupied by small groups--probably individual families--who maintained personal food storage in caches near their rooms. The organization of these habitation units does not change appreciably from room to room. The size of the dwellings of course changes with the addition of new segments to the core structure. While house widths remain at about 4 m, the overall size of dwellings increases from 7 m about 6,000

years ago to 28 m about 4,500 years ago (Table 1). Because all of the compartments seem to have been occupied at one time, and since it seems reasonable to hypothesize that each segment housed a family of 4-5 individuals, the numbers of segments or the length of the structure (in cases where the dividers are obscured) offers a method of estimating the size of the group occupying a given dwelling structure. However, in cases where more than one longhouse occurs at a given site, determination of structure contemporaneity and estimates of total group population size is quite difficult.

This description of the Aillik sequence summarizes the evidence for an evolutionary or developmental model of change in Maritime Archaic dwelling structures between approximately 7000-4500 B.P. Although the discussion has been confined to Aillik to simplify presentation, similar types of structures are known from other sites on the central coast between Hamilton Inlet and Nain. However, none of those associated with early or middle Maritime Archaic periods have been dated. Taken together, these data indicate that expansion from single to multiple-segmented structure may have occurred as early as 6000-6500 B.P. However, perhaps other types of structures continued to be used as late as 5500 B.P., as seasonal or specialized dwelling types (Hood 1981).

The later portion of this sequence is best illustrated by finds at Nulliak Cove, located on the outer coast between Hebron and Saglek. The site, designated Nulliak Cove 1 (IbCp-20), is 30 km north of the present-day forest boundary at Napartok Bay. The site was first investigated in 1978. In 1980 we returned to map, test, and excavate part of a rectangular structure and two burial mounds (Fitzhugh 1981a). At that time we noted 16 longhouses with dimensions ranging from 25 to 80 m in length. The form of these structures resembled those at Aillik although the walls of the Nulliak structures were less easy to detect. This difference is probably caused by local geological conditions, the Nulliak beaches being composed of marine deposits that had not lost their fine sediments to wave action. As a result, cultural deposits had been preserved in their original positions, as they had also at Rattlers Right.

These geological conditions provided a solution to the lack of

conformity in evidence between architectural forms and the remains of domestic activities. At Nulliak the arrangement of domestic activities can be studied in relation to socially organized space. The location of this large site in a geographically marginal area for this culture raised a number of questions that were all the more intriguing because stylistic evidence suggested a relatively brief Nulliak occupation. Radiocarbon dates from the Mound 1 burial (3565±75 B.P., SI-4821) and from hearths in the Structure 8 longhouse (3795±60 B.P. and 3710±70 B.P., SI-4822, 4823) supported this view. Indeed, these dates suggested that at least part of the Nulliak occupation took place near the end of the Labrador Maritime Archaic, perhaps even later than Rattlers Bight. This was somewhat surprising in view of evidence for strong Pre-Dorset occupation in Nain, Okak, and Hebron at precisely the same time period.

Table 1

Some recently investigated Maritime Archaic dwelling structures

Site	Desig.	Type	Segs.	Lng.	Elev. a.s.l.	age B.P. (* est.)
Alllik 3	GhBt-4	round, pit.	1	3-4 m	36 m	6000-7000*
Alllik 2, S7	GhBt-3	rect., surf.	2	6 m	21.0 m	5500-6000*
Alllik 2, S6	GhBt-3	rect., surf.	1	3 m	20.8 m	5500-6000*
Alllik West 1, S3	GhBt-1	rect., surf.	3	9 m	23.1	5210±270
Alllik 2, S5	GhBt-3	rect., surf.	4	10 m	20.0 m	5000*
Alllik 2, S3	GhBt-3	rect., surf.	4	19 m	14 m	4800*
Alllik 2, S2	GhBt-3	rect., surf.	7-10	28 m	17.6 m	4500*
Nulliak Cove 1, S8	IbCp-20	rect., surf.	15+	40+ m	13.8 m	3710±70
Nulliak Cove 1, S11	IbCp-20	rect., surf.	15	40 m	19.5 m	3700*
Nulliak Cove 1, S15	IbCp-20	rect., surf.	6+	18+ m	23.8 m	3700±80

In summary, these data--even though tentative at present--suggested the following scenario of Maritime Archaic cultural development. The sequence appears to begin about 7,000-8,000 years ago with small villages of one to three round or oval pithouses, each of which presumably held a single family. After a millennium (by 6000 B.P.), round pithouses began to be replaced by oval or sub-rectangular structures such as S6 and S7 at Aillik 2. Subsequently, these structures assumed more formalized rectangular dimensions, becoming larger through time as additional rooms of similar size and organization were appended to the core structure, as follows: 3-segment structures by ca. 5200 B.P., 7-10-segment structures by ca. 4500 B.P., and 15-20 segment structures by ca. 3700 B.P. The latter attained dimensions as large as 50 to 80 m. Although other sites have not been noted to contain more than one longhouse, Nulliak had at least 15 or more, based on 1980 fieldwork estimates (Figure 4, 4a). Certainly not all of these could have been occupied at the same time. Nevertheless, the site represents a dramatic escalation in house size and settlement complexity considering its location north of the forest and near the northern Maritime Archaic periphery.

This sequence of residential development over 3,500 years adds new dimensions to social and demographic aspects of Maritime Archaic culture. In addition to the use of longhouse size in estimating residential population sizes, it becomes possible to interpret the social context of material culture by examining the kinds and numbers of tools and other remains found in different compartments in a particular longhouse. Internal variation in compartment assemblages might result from residential craft or activity specialization, or status differential expressed in the kinds and amounts of raw materials (especially exotics) available to occupants of different compartments. Such studies might also resolve the question of whether grave goods found in individual burials belonged to the deceased or were the combined contributions of a social group or the community at large. In addition to these topics the Aillik data also raise questions about settlement nucleation, subsistence intensification, regional population growth, and socio-political change. However, investigation of these and other subjects leads beyond the limit of the present paper.

1983 Field Surveys

Fieldwork began on 8 July with our departure from Gordon Pittman's boatyard in Rocky Harbour, at the entrance to Bonne Bay, where Tunnyuk had been lodged for repairs earlier in the year. Due to the lateness of the season and our need to proceed north rapidly, there were few opportunities for archaeological work during the two week transit to Nain. Nevertheless, some locations were visited (see Appendix 1). Among them was L'Anse Amour, where we noted habitation deposits with tools, debitage, slabs, fire-cracked rocks, and small boulder features adjacent to the burial mound excavated by McGhee and Tuck (1975). It seems likely that the mound and the habitation area date to the same period and were part of a single shore-side site, considering that stratified components at L'Anse Amour Area 5, a slightly lower site, date to 4000-6200 B.P.

After visits to L'Anse Amour and Red Bay we proceeded to Square Island, where Christopher Nagle had requested we search for an outcrop of "large masses of dark green actinolite" reported by A.S. Packard (1891:143) which might have been a source of nephrite. We were not able to re-locate this possible source. Farther north we surveyed Penny Hook Cove, a small harbour on Island of Ponds on the south side of Domino Run. Two historic period sites were found with rectangular sod foundations and late 18th and 19th century artifacts, including well-preserved wood and bone materials. The houses lacked entrance passages and did not contain recognizable Inuit artifacts. However, the swampy ground could have been occupied only in the winter, making it an unusual site for a European establishment. This area, which has a number of less distinct structures that were not tested, deserves further study.

The next location visited was Haypook Island, east of Cartwright. In addition to caches and tent rings of unknown cultural origin, a large boulder of nephrite-like material weighing nearly 50 kg was found on a terrace on the eastern end of the island. This boulder had battered edges and numerous flake removal scars. Excavation revealed debitage and Dorset-like flaked celt preforms around its base. No culturally diagnostic tools or chert implements were recovered, nor was there evidence of a Dorset site nearby. Samples of the nephrite were taken for laboratory

analysis. This boulder is an interesting find because geological sources of nephrite are not known in Labrador (Blackman and Nagle 1983; Nagle 1984). Since it was not embedded in the beach deposits it cannot have been moved here by glacial or marine agencies. While the Haypook boulder cannot be considered a "geological source", its large size and its indications of having been worked down locally from a larger, naturally eroded boulder suggest it was not likely to have been carried here from far away.

During the past several years, field data on Maritime Archaic structures at Aillik and Nulliak have prompted re-examination of sites and excavated data from Grosswater Bay. Laboratory analysis of these data has shown that these sites contain rectangular structures of different lengths. Sandy Cove sites dating to ca. 5000 B.P. have structures with two or three hearths and overall lengths of 12-16 m; Black Island 2, dating to ca. 4200 B.P., has a 50 m structure with 12 hearths; and Rattlers Bight at 4000-3700 B.P. has evidence of multi-hearth structures of comparable or greater length. Since these structures were not recognized at the time these sites were excavated, we needed to see if supporting evidence for these interpretations might be forthcoming from new field observations.

Two days were spent in Grosswater Bay inspecting Maritime Archaic sites excavated ten years ago. No new excavations were made, but the pattern of multiple, closely-spaced collection and hearth loci paralleling terrace fronts at Sandy Cove, Black Island, and Black Island Cove resembles longhouse sites at Aillik, dating to the same perid, ca. 5000-6000 B.P. A visit to Monument Point 3, a Rattlers Bight period site in outer Grosswater Bay, presented the clearest case for this interpretation. Test pits east of the previously excavated 16 m section of this site revealed a narrow 70 m long deposit extending along the front of this terrace. Since this site almost certainly represents an unmixed single component longhouse, it offers an excellent target for functional and spatial studies of an isolated residential unit. Rattlers Bight and other larger sites present problems in this regard due to their extensive re-occupation histories.

North of Cape Harrison, we revisited a site on Seal Cove Point (CaAu-1) found in 1973. At that time there was no explanation for its

vague and ill-defined stone structures that lacked diagnostic implements and charcoal. Its high elevation, however, suggested an early date. This time we identified a group of boulder mound burials (or caches) and several small, multi-segmented dwelling foundations. The latter were variable in form, usually rectangular, and had one to three internal compartments. Some of the structures had been formed by conjoining circular and rectangular structures with a shared wall. The sea level elevations of the mounds and structures suggested an early Maritime Archaic date. The unusual Seal Point Cove structures are intriguing in that they may represent an intermediate or transitional form between the single-unit pithouse dwellings and the later, more formalized three-segment structures.

After weathering a northern storm that covered the central coast hills with snow and brought the ice pack back onto the coast for the next month, we proceeded to Ailiik. Here we spent several days completing excavations at the three-segmented Ailiik West 1 structure (Fitzhugh 1982) and mapped more of Ailiik 2. We then surveyed parts of Bay of Islands, finding a new Maritime Archaic site on a hillcrest on the south side of the Island Harbor neck. Stone structures reported by Leonard and Rupert MacNeill at the north end of the Island Harbour peninsula were found to be cairn beacons of fairly recent origin.

Continuing north, we worked a large site on the south side of Tickle Arichat (Tikkarsuk), a fine hunting spot at a prominent point separating Bay of Islands and Kangairiktok Bay. In earlier surveys we had located a Pre-Dorset site and, at higher beach levels, numerous boulder structures. Like Ailiik 2, this site contains a vertically stratified set of structures and collection localities. The upper beaches have mounds, cache pits, "traps", probable burial features, rectangular foundations, and other structures. Immediately below are structure and collection loci attributable to both Pre-Dorset and Saunders groups. Having mapped these sites, we headed north again, entering the pack ice off Davis Inlet and stopping to survey "Jaeger" Island, one of the outer islands east of Voisey Bay near the sites. Here we located a concentration of Pre-Dorset, Dorset, and early Neo-Eskimo sites whose presence at this [illegible]-oriented site conforms to earlier settlement pattern interpretations from this region.

Our visit to Hain was brief and consisted primarily of organizing for the Nulliak work. We left on 25 July, proceeding via the outer passage to Black Island and from there to Okak and Hugford Tickle. Off Port Manvers we encountered heavy pack ice through which we steamed until entering Saglek Bay. En route a Pre-Dorset site was found near the Inuit fishing station at Green Cove in Napartok. Ice was too heavy to land at Nulliak. In Saglek we surveyed the north shore of the bay for late Maritime Archaic longhouse sites. Rectangular structures had previously been located at early Maritime Archaic sites on Big Island (Thomson 1983). In addition to investigating a Dorset site reported by Richard Nettleship (Canadian Wildlife Service) on the exposed coast a few miles north of Kangalasiorvik Island, and locating new sites northeast of Jens Haven Island, we found tell-tale signs of habitation deposits extending more than 300 m along the terrace front at Tuck's late Maritime Archaic Saglek Bay Site A (1975:75). This site seems to contain more than one longhouse dating to the Rattlers Bight period. At present this is the most northern site known to contain this type of structure. Its presence reinforces interpretations from Nulliak that longhouses are a "normal" feature of even the northernmost Maritime Archaic settlements.

Following work in Saglek we returned to Nulliak and found the cove sufficiently clear of ice to anchor and set up camp. We remained here for three weeks excavating three longhouses, making a controlled site map, and surveying nearby areas on foot and by boat. During this period Nulliak was frequented by 15-20 caribou which showed little concern at our presence while on their daily rounds. A flock of Canada geese spent the summer moulting on the pond, not far from a thriving fox den. In addition to a number of small shore birds we had the company of rough-legged hawks and a nesting pair of Peregrine falcons.

Work centered primarily on longhouse excavation with three goals in mind: (1) clarification of spatial and functional patterning of activities within definable longhouse structures; (2) investigations of structures at different elevations for evidence of chronological change; (3) sampling and mapping other structures to determine overall site settlement pattern, numbers and types of structures, and length of site occupation.

The first of these objectives was accomplished by extending the 1980 excavation at Structure 8 from 16 to 40 m. Time did not permit the structure to be excavated in its entirety; about 20 m of its eastern end were left intact (Figure 4b). The 1983 work revealed a chain of hearths about 3.5 m apart aligned with the 1980 hearths running midway between the house's walls (Figure 4c). These hearths contained assemblages of stemmed points, flake knives, bifaces, and soapstone pallets, plummets, and pendants. Celts, and slate tools were uncommon, as were micropoints. Although Ramah chert was the predominant chipping material, considerable amounts of quartzite and other cherts occurred. Red ochre was found sporadically and usually not in hearths. The spatial pattern of hearths and living debris suggests a single occupation conforming to the longhouse pattern. Radiocarbon samples were gathered so that the hearths can be tested for contemporaneity.

Structure 8 lies at the east end of the main Nulliak A2 terrace 15 m above sea level. A few metres north of this structure the beaches rise to the A3 terrace level on which eight other longhouses have been identified. Since these were higher, further from the A2 terrace shorelines, and were on beaches that faced Nulliak Pond rather than the open sea, it was suspected they might date to an earlier period than the A2 structures, perhaps from the time when Nulliak Pond was an embayment. Therefore, two of the A3 structures were selected for excavation. Structure 15, a longhouse on one of the highest beaches at Nulliak, produced an assemblage of narrow-bladed, large stemmed bifaces together with other typically late Maritime Archaic pieces, and some unusual polished pebbles of Ramah chert, which may have been collected as souvenirs from Ramah Bay. The excavated portion of this structure had reasonably well-defined walls and an axial alignment of five hearths. Our 20 m excavation was positioned to capture the south end of this structure; it appears that the north end extends an undetermined distance along the trend of the old beachline. As has been noted at other longhouse sites, there was no external midden. Most of the collections came from inside the structure walls.

Our attempt to excavate completely at least one whole longhouse was realized at Structure 11, which is located several metres lower than 15 at the front of the A3 terrace. A 2 m wide trench (expanded

to 3 or 4 m wide in places) covered most of the internal area of this 40 m long structure. The beach surface here is more exposed and rocky than at either S8 or S15, making the internal divisions of the longhouse more evident. The structure contained fifteen slightly excavated floors or rooms separated by gravel "ridges". Artifacts, flakes and hearths were found in the depressions but not on the raised "dividers". Perhaps the latter were covered with skins for bedding or were room partition foundations.

Although it is too soon to present an analysis of these excavations, a few comments are in order. The study of hearth charcoal by Dosia Layendecker continues to indicate the predominance of alder/birch, willow, and other tundra plants used as fuel; coniferous woods rarely are found in the hearths. This confirms earlier evidence that the coastal tree limit was well south of Nulliak at this time (Fitzhugh 1978; Lamb 1980). A less consistent pattern has emerged from radiocarbon dates. In addition to two previous dates of 3795±60 and 3710±70 (SI-4822, 4823) from the west end of Structure 8, we have a new date of 4210±110 B.P. (Beta-7740), and dates of 2760±190 (Beta-7741; small sample) for Structure 11, and 3700±90 B.P. (Beta-7742) for Structure 15. Until a new and larger suite of dates can be obtained, we continue to view these house occupations at ca. 3700 B.P.

There are, however, a few factors that suggest functional or chronological differences between Nulliak and Rattlers Bight. The presence at Nulliak of quartzites and of lanceolate bifaces, occasional end scrapers, the relative absence of small points and micropoints, and the elaboration of soapstone technology continues to distinguish these collections from Rattlers Bight assemblages. Of particular interest are soapstone pallets, plummets, plummet blanks, cutouts, and pendants which have incised leaf, skeletal, and geometric designs, edge notching, ticking, and other features. Some of these resemble Beothuck bone pendants.

In general, the collections from individual hearth areas or house segments are similar to one another and do not indicate major differences in raw materials, styles, or abundance of objects. Typically, a segment of hearth area contains 3-4 points or point fragments, a similar number of biface fragments, one or two plumb of walnut soapstone, occasionally

an adze or an adze fragment, 5-10 utilized flakes, and several hundred pieces of small-sized debitage. These collections imply a relatively brief occupation of these houses, in some cases perhaps of only a few weeks.

These excavations seem to confirm the general features of the longhouse model. As yet there is no evidence of individual production specialization of functional or spatial concentration of tools in any section of these structures. The excavations to date conform to the model of individual family dwelling spaces in a relatively egalitarian multi-family longhouse. Unlike the earlier Aillik-type structures, Nulliak and Rattlers Bight structures do not have individual cache pits surrounding their longhouses. Perhaps an earlier pattern of family controlled storage was replaced by communal supplies in larger caches.

Fieldwork also resulted in completion of the third objective, site mapping and settlement pattern studies. A contour map was constructed for the entire site on which were plotted all recognizable longhouses, mounds, caches, and other site features, together with surface artifact finds. In the process the number of identifiable longhouses was increased to 25. Several of these structures are remnants of ones that have mostly disappeared due to terrace edge erosion, so that it is probably impossible to determine the total number of longhouses once present at the site. During these surveys artifact collections and radiocarbon samples were obtained form additional longhouses; Structure 5, an isolated and relatively exposed 40 m long structure was mapped in detail; and several stone cache piles and a long Pre-Dorset mid-passage house, Structure 25, were excavated.

Surveys in the neighborhood of Nulliak Cove resulted in more detailed mapping of a large caribou drive system west of Mikkitok lake, identification of a small caribou fence west of Nulliak Pond (Figure 5), and location and testing of two large multicomponent Maritime Archaic sites ("Windy Terrace" and "Windy Cove") between Nulliak Cove and Iterungnak Fjord. These sites promise to provide important data on Maritime Archaic occupations pre-dating the Nulliak period, ca. 6000-4000 B.P.

Increasing numbers of Pre-Dorset sites were also found south of Nulliak at Jerusalem Harbour and Hebron. Although our survey of the

latter area was limited, it added new information to the Torngat Project and 1980 work, confirming a high intensity of Pre-Dorset occupation. Late Maritime Archaic activity here is almost nil, although sites dating ca. 5000-6000 B.P. exist. Late Paleo-Eskimo sites and a large multi-component Labrador Eskimo/Inuit winter site were located in a cove south of the Iterungnek pass.

Concluding our work at Nulliak and Hebron, we departed for Nain, arriving on 24 August. After reorganizing and packing collections and equipment, we proceeded south, reaching Goose Bay on 2 September.

Discussion

The 1983 season produced important corroborative information on the development of Maritime Archaic culture as indicated by earlier research in central and northern Labrador. Earlier field and laboratory data had indicated the existence of closely-spaced linear hearth chains at several early Maritime Archaic sites in Groswater Bay. Although excavations specifically directed at verifying the longhouse model have not yet been undertaken here, analysis of data from previously excavated sites at Sandy Cove, Black Island, and Black Island Cove point toward the presence of early Maritime Archaic rectangular structures in these sites.

Research at Ailik provided more elevation control on the development of rectangular structures in the early part of the Maritime Archaic sequence, 7,000-4,500 years ago. Although more work is needed on the transition between the pithouse and early single and double-roomed rectangular structures, a chronological framework for these changes is beginning to emerge. A key point in this sequence is the recognition of possibly transitional structures combining features of both round and rectangular house forms at sites like Seal Cove Point, Tickle Arichat, and "Windy Cove". The dating and assemblage associations at these sites remain unclear, and the links at this point are based on stylistic features and site elevations suggesting dates in the 6000-7000 B.P. range. More secure is the subsequent period in which the rectangular structures take clear form as regularized segmented dwellings with typical early Maritime Archaic assemblages, as seen in the three-segment structures

at Aillik West 1, dated to ca. 5200 B.P.

The 1983 fieldwork has also clarified and substantiated the longhouse model for the late Maritime Archaic occupation. Similar conclusions forthcoming from analysis of spatial data at Rattlers Bight are paralleled by the discovery that Monument Point 3 may be a single 70 m longhouse. The Nulliak excavations clearly reveal the adequacy of the Aillik structural models for the Rattlers Bight period, suggesting that large longhouses were utilized in later Maritime Archaic periods, even north of the tree limit in northern Labrador. They also provide convincing proof for interpretations based on architectural evidence at Aillik for occupation of rooms or segments within these longhouses by small groups, probably individual families who utilized relatively similar tool assemblages. However, the diversity of soapstone artifacts, some of which seem to have symbolic meaning, hints at spatially organized social differentiation.

Data also indicate that Nulliak was reoccupied many times by late Maritime Archaic groups whose activities seem to have been comparable to those represented at Rattlers Bight and other sites. General purpose habitation remains are found in all of the individual dwelling structures, while meat caches, burials, caribou fences, and other types of structures suggest maintenance of routine domestic and ceremonial activities. Although acquisition of Ramah chert may have been an important activity, large amounts of primary debitage and quarry reduction are not found at Nulliak, and the artifact and flake assemblages contain a surprisingly large amount of other lithic types. This is especially interesting considering Nulliak's proximity to Ramah Bay and the greater dominance of Ramah chert at more distant sites like Rattlers Bight.

These "normal" activity patterns, however, must be viewed within the context of the site itself, which introduces certain anomalous features. First there is the large number of dwelling structures, each occupied by 50-100 individuals. How many of the 25 longhouses at Nulliak were occupied at one time is not known. Hearth charcoal indicates a shrub-tundra environment which supplied sufficient amounts of wood for fuel, but must have necessitated importation of forest products--beaver teeth, copper; wood for tools, boats and house construction; and other materials--from forest zones south of Mugford. During this period Maritime

Archaic sites on the central coast contain large amounts of Ramah chert. Finally, there is the following distributional evidence: (1) large numbers of Pre-Dorset sites in Nain, Okak, and Hebron between 4000-3500 B.P. combined with the absence of late Maritime Archaic sites in these same areas; (2) common Maritime Archaic occurrence on the Central coast and in the north at Nulliak and Saglek; and (3) evidence of unusually heavy concentrations of Pre-Dorset activity at Hebron, and only a short distance to the north, of Maritime Archaic at Nulliak (Figures 6, 7). These conditions raise a number of interesting questions about relationships between these cultural groups.

Maritime Archaic Pre-Dorset Relationships: 4000-3500 B.P.

It has become clear that the late (Rattlers Bight) phase of the Maritime Archaic in Labrador cannot be understood without reference to Pre-Dorset contacts taking place after 4000 B.P. Prior to this time Maritime Archaic peoples occupied Labrador unhindered by the presence of other cultural groups; their development was limited only by their own creativity in dealing with environmental conditions. By 4000 B.P., however, Pre-Dorset people had moved into Labrador from the north, probably only a few centuries after having migrated into the Eastern Arctic. Moving down the Labrador coast, they encountered Maritime Archaic Indians who had a strong dependency on Ramah chert, Maritime Archaic people had also, undoubtedly, attached special spiritual qualities to this material, qualities manifested in ritual, burial practices, myth, and oral traditions. In the coming centuries the influence of these beliefs and practices probably spread into the Canadian Maritimes and northern New England.

The first contacts between Paleo-Eskimos and Maritime Archaic people must have been memorable, for both had expanded into virgin territories without human competitors. Both had similar subsistence economies based on a mixture of land and sea hunting and fishing that placed them in direct competition with each other for subsistence and material resources. Each, however, had a very different cultural pattern. Pre-Dorset social organization seems to have been one of small, loosely banded hunting groups. They were expert flint-knappers and preferred colorful, fine-

grained chert to more coarse-grained materials like Ramah chert. Perhaps for this reason they were tempted to move into the rich, timbered hunting grounds south of Hebron, where they could obtain not only wood but an unlimited supply of the multi-colored Mugford chert varieties available in Okak. Although Pre-Dorset people in this region utilized a small amount of Ramah chert, Mugford cherts dominate their assemblages. During 4000-3500 B.P. Pre-Dorset culture flourished in the Main-Okak region, judging from the large numbers of sites found there.

The effects on Maritime Archaic people of this movement by an alien culture into an area south of their northernmost settlements cannot at present be determined. It is significant, in any case, that very few Rattlers Bight period sites are found in Main and Okak where Pre-Dorset people settled (Figure 8). Those that are known occur in "hidden" locales among the outer islands, rather than on the prominent open terraces where Maritime Archaic sites are usually found. The Main-Okak late Maritime Archaic sites are invariably small stations or find locales that seem to have been used as brief camps rather than as major hunting bases.

The dynamics of this complex picture of cultural geography are not known at this time. Territorial divisions are best explained archaeologically by the dependence of Maritime Archaic on Ramah chert and Pre-Dorset on Mugford chert. Evidence of conflict is not seen in the archaeological record (although it probably occurred), and there is also no evidence for structured economic or social relationships between the two groups. Maritime Archaic people maintained control of the Hebron-Ramah Bay region, and supplied Ramah chert past Pre-Dorset territory to the central and southern coasts. The probability that Maritime Archaic coastal movements were in large boats—perhaps dugout canoes—would reduce the hazards of travel or hostile action to these seafaring groups.

From technological evidence it also appears that contact between the two cultures was minimal. The single Pre-Dorset style burin found at Rattlers Bight seems to be a local copy of a Pre-Dorset tool, because it is made of Ramah chert and Pre-Dorset burins are never made of this material. Likewise, small, stemmed arrowpoints of apparent Maritime Archaic inspiration have been found in Pre-Dorset sites, made of Mugford

chert at a time when Maritime Archaic knappers rarely made use of this material. Of more significance is the notion that toggling harpoons, first developed by Maritime Archaic people, entered Pre-Dorset technology through Labrador MA contact, and that bows and arrows may have passed in the other direction (McGhee and Tuck 1975). However, small projectile points seem to appear as early as 5500 B.P. in central and northern Maritime Archaic sites.

Until sites with organic preservation are found in Labrador it is not likely that the significance of material culture exchanges between these groups will be resolved. What can be ascertained is that the interlocking territorial distribution of these cultures put each group into more intimate association with each other than previous reconstructions (e.g. Fitzhugh 1978:91) have suggested. No longer are we speaking of a simple boundary or "no-man's land" between the two cultures like that exhibited by ethnographic Indians and Eskimos across the forest-tundra boundary in Canada. Rather, the data suggest a planned, carefully maintained settlement and procurement system in which both groups occupied outliers of their main cultural distribution and maintained regular trading and social relations between both peripheral and core groups.

In this regard it is important that the largest Rattlers Bight site known today is at Nulliak, situated in a tundra zone south of the Ramah chert quarries, only 15 km north of Hebron Fjord. Directly across the mouth of Hebron Fjord at Harp Peninsula, 30 km south of Nulliak, there is a large Pre-Dorset site with 6 separate settlement locations each containing 4-6 individual houses. Perhaps these unusually large sites resulted simply from the exceptionally good hunting conditions of the region, with the large numbers of houses resulting from occupations spanning several centuries. On the other hand, one wonders whether these large sites may have played some role in establishing territorial boundaries along what must have been a stressful interface between cultures with strong ideological, material, and social differences.

The effect of this complicated distribution and resource acquisition situation on Pre-Dorset and Maritime Archaic cultures over a several hundred-year period is difficult to determine. Among the possibilities is that social stress may have contributed to cultural intensification

noted in the Rattlers Bight phase, when increasing importance was given to Ramah chert both in local technology and export trade. Perhaps also the consolidation of local groups into large longhouse settlements can be attributed in part to the emergence of local leaders as boat captains, as territorial defenders, and as purveyors of the Labrador trade linking the northern outposts to the southern heartlands. Comparable effects on Pre-Dorset groups are not so easy to speculate on or to test. Nevertheless, the recognition of population outliers produces a welter of possibilities for investigating intercultural relations. It also provides a new dimension to the disappearance of Maritime Archaic culture in Labrador after 3500 B.P., which in the past has been attributed to a combination of climatic deterioration and the effect of advancing Pre-Dorset people (Fitzhugh 1972, 1977). The growing reality of an actual Pre-Dorset population in the midst of Maritime Archaic territory in central Labrador adds a new dimension to this discussion.

Acknowledgements

This paper is based on research spanning a number of years of field and laboratory studies. It is impossible here to thank individually all of those who have contributed to this research. However, I do wish to express my gratitude for the 1983 field crew: Joan Gero, Lynne Fitzhugh, Stephen Loring, Eric Loring, Callum Thomson, Fernando Sanchez, Gary Baikie, and Mark Saksagiak. This research was made possible by grants from the Scholarly Studies Program of the Smithsonian Institution and the Government of Newfoundland and Labrador, through the Historic Resources Division, Department of Culture, Recreation and Youth. Aron Crowell and Dosia Layendecker contributed greatly in the analysis of laboratory data, and Robert Stuckenrath in the radiocarbon assays. I would also like to thank Petro-Canada and the Newfoundland and Labrador Department of Mines and Energy for valuable assistance in the field.

REFERENCES

BLACKMAN, M.J., and C. NAGLE

1983 Characterization of Dorset Palaeo-Eskimo nephritic jade artifacts from central Labrador. In: Proceedings of the 22nd Symposium on Archaeometry (1982), edited by A. Aspinall and S.E. Warren. University of Bradford, U.K., pp. 411-419.

FITZHUGH, W.W.

1972 Environmental archeology and cultural systems in Hamilton Inlet, Labrador. Smithsonian Contributions to Anthropology 16.

1977 Population Movement and culture change on the central Labrador coast. Annals of the New York Academy of Sciences 238:481-497.

1978 Maritime Archaic cultures of the central and northern Labrador coast. Arctic Anthropology 15(2):61-95.

1980 Excavations at Rattlers Bight--a late Maritime Archaic settlement and cemetery in Hamilton Inlet, Labrador. National Geographic Society Research Reports for 1971 12:223-231.

1981a Smithsonian archaeological surveys, central and northern Labrador, 1980. Archaeology in Newfoundland and Labrador 1980. J. Sproull Thomson and Bernard Ransom eds., Annual Report 1:26-47, Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

1981b Boulder pits to longhouses: settlement and community pattern development in the Labrador Maritime Archaic. Paper presented to symposium titled: Cultural complexity and cultural development on the Northeast and Northwest coasts, Canadian Archaeological Association annual meetings, 1981. Edmonton.

1982 Smithsonian surveys in central and southern Labrador in 1981. Archaeology in Newfoundland and Labrador 1981, J. Sproull Thomson and Callum Thomson eds., Annual Report 2:32-55, Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

HOOD, B.

1980 The Maritime Archaic occupation of Nukususutok Island, Nain, Labrador. Unpublished M.A. thesis, Trent University, Peterborough, Ontario.

LAMB, H.
1980 Late Quaternary vegetational history of southeastern Labrador. Arctic and Alpine Research 12:117-135.

MARTIJN, C.A.
1974 Archaeological research on the Lower St. Lawrence North Shore, Quebec. In: Archaeological Salvage Projects 1972, William Byrne (ed.), National Museums of Man, Mercury Series, Archaeological Survey of Canada, Paper 15:112-130.

McGHEE, R. and J.A. TUCK
1975 An Archaic Sequence from the Strait of Belle Isle, Labrador. National Museum of Man, Mercury Series, Archaeological Survey of Canada, Paper 34. Ottawa.

NAGLE, C.
1984 Lithic raw materials procurement and exchange in Dorset culture along the Labrador Coast. Ph.D. dissertation presented to Department of Anthropology, Brandeis University, Waltham, Massachusetts.

PACKARD, A.S.
1891 The Labrador Coast. A journal of two summer cruises to that region. With notes on its early discovery, on the Eskimo, on its physical geography, geology, and natural history. New York.

THOMSON, C.
1983 Maritime Archaic longhouses and other survey results from outer Saglek Bay, northern Labrador, August 1982. Archaeology in Newfoundland and Labrador 1982. Jane Sproull Thomson and Callum Thomson eds., Annual Report 3:3-31, Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

TUCK, J.A.
1975 Prehistory of Saglek Bay, Labrador: Archaic and Palaeo-Eskimo occupations. Mercury Series, Archaeological Survey of Canada Paper 32. National Museum of Man. Ottawa.

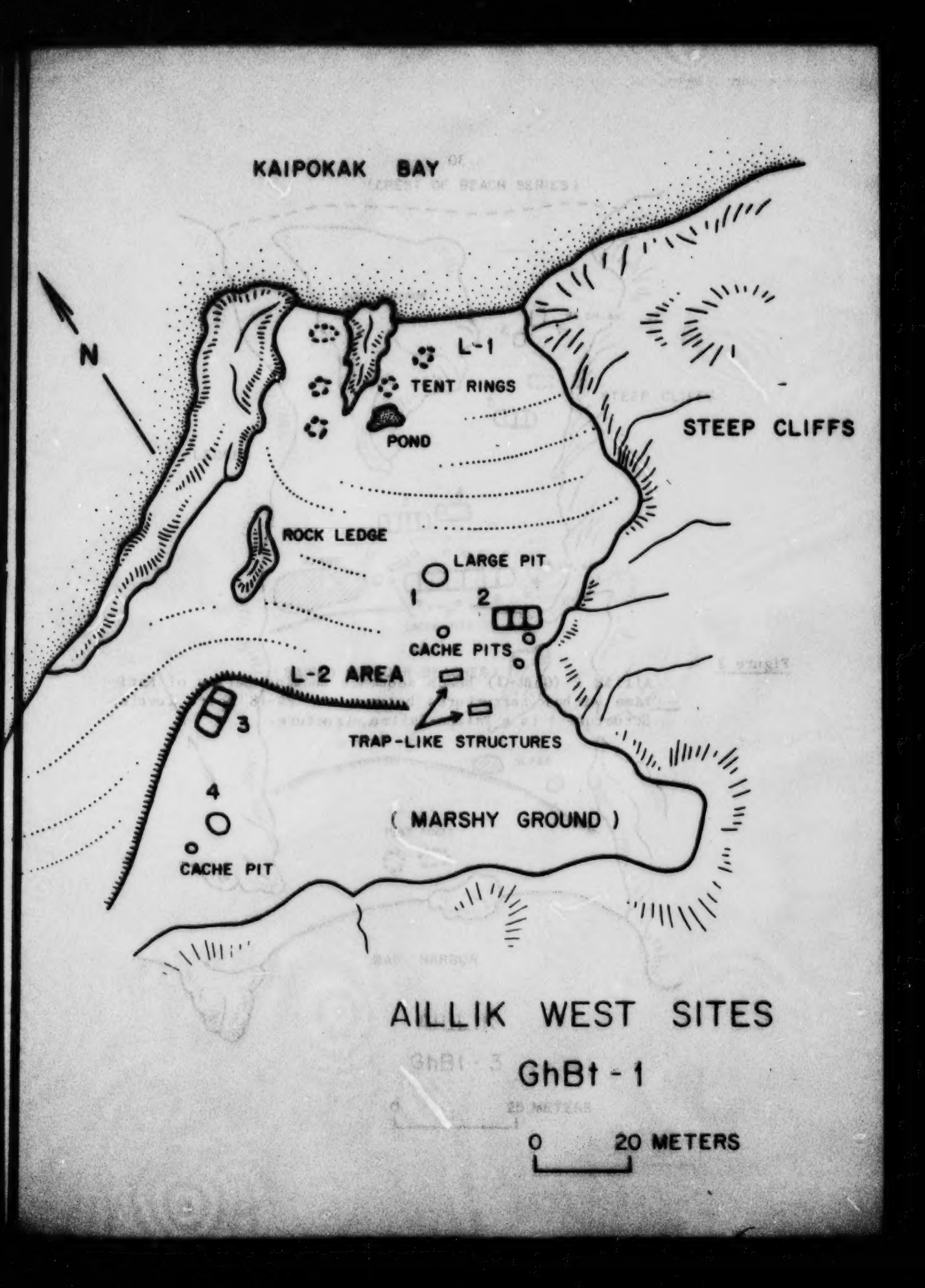
APPENDIX 1

New site listings 1983

Site name	Borden no.	location	comment
Penny Hook Cove 1	FlAw-1	Domino Run	18-20th century settler or Inuit
Haypook Island 1	FlBf-1	Cartwright	nephrite boulder (Dorset?)
Seal Cove Point 1	GaBn-1	Cape Harrison	Early M.A. rect. and circ. structures
Island Harbour 1	GgBv-1	Bay of Islands	Early Maritime Archaic
"Jaeger" Island 1	HbCf-1	Volsey Bay	Pre-Dorset; Dorset; Inuit sina camps
Napartok Bay 3	laCo-1	Napartok	Pre-Dorset; Labrador Eskimo/Inuit
Garnet Point 1	laCr-1	Hebron	Pre-Dorset; Groswater; Dorset
Delabarre site	lbCr-1	Hebron	Pre-Dorset; Thule; Labrador Inuit
Delabarre Upper	lbCr-2	Hebron	Maritime Archaic (?) lookout
Harp Isthmus 5	laCp-16	Hebron	Early Maritime Archaic
Nulliak Brook	lbCp-25	Nulliak Cove	Maritime Archaic (?) caribou fence
Windy Terraces	lbCq-5	Iterungnek Bay	Early, middle, late Maritime Archaic
Windy Cove 1	lbCq-6	Iterungnek Bay	Early, late Maritime Archaic
Windy Lakes 1	lbCq-7	Iterungnek Bay	Pre-Dorset
Nulliak Ponds 1	lcCq-9	Nulliak Cove	Neo-Eskimo hunting camp
Jens Haven Cove 2	ldCr-40	Saglek Bay	MA; Pre-Dorset; Groswater; Dorset; Neo-Eskimo
Tombolo site	ldCr-41	Saglek Bay	Middle Dorset
Isthmus site	ldCr-42	Saglek Bay	Dorset
Battleship site	ldCr-43	Itigaiyavik Cove	Middle and Late Dorset

Figure 1

Ailiik West 1 (GhBt-1) illustrating two three-segment rectangular structures and associated cache pits, trap-like structures and other features. The large pit (S1) probably belongs with an earlier component at the site.


KAIPOKAK BAY
N
L-1
TENT RINGS
POND
STEEP CLIFFS
ROCK LEDGE
LARGE PIT
1
2
CACHE PITS
L-2 AREA
3
TRAP-LIKE STRUCTURES
4
(MARSHY GROUND)
CACHE PIT
AILLIK WEST SITES
GhBt - 1
0
20 METERS

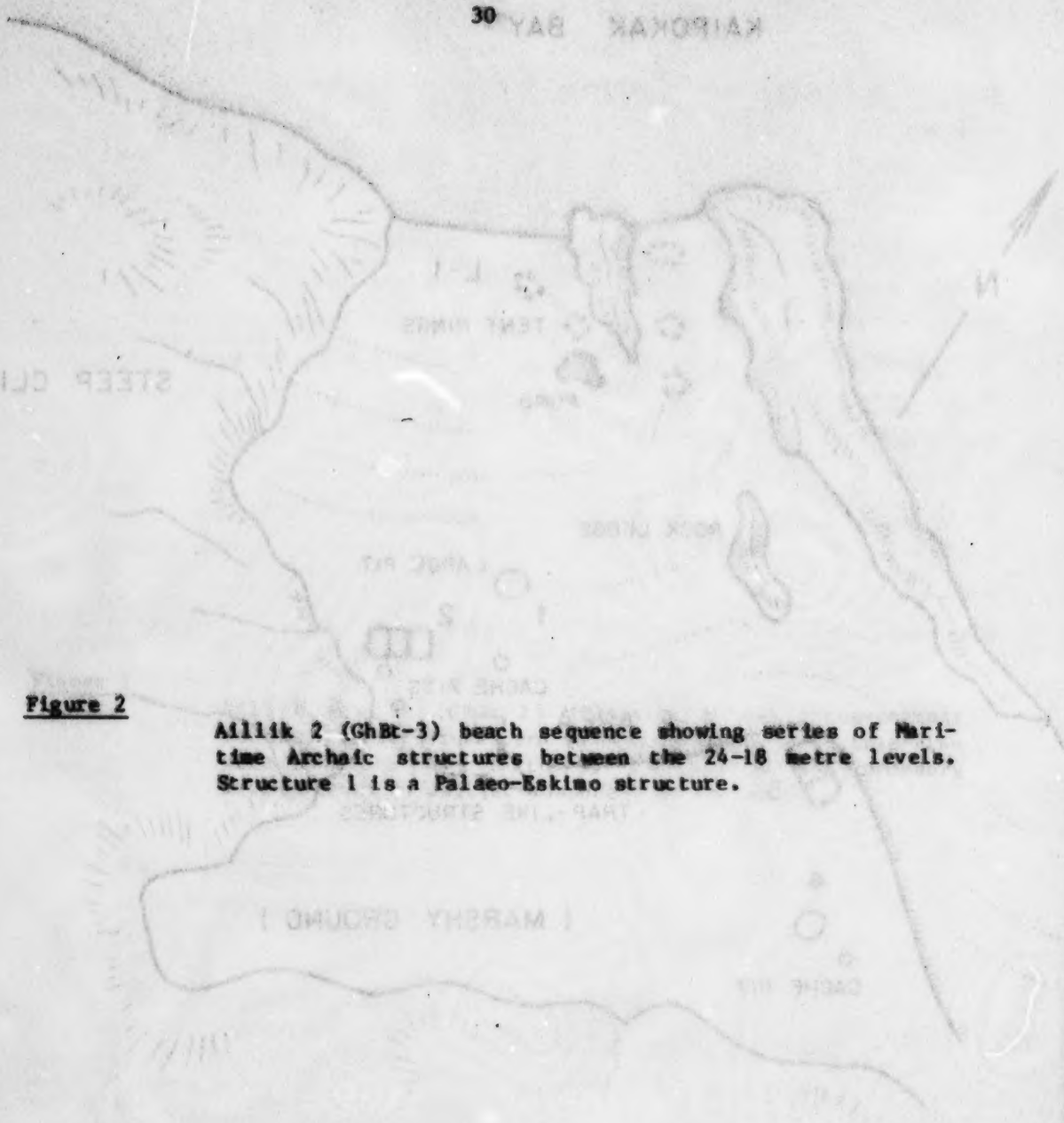
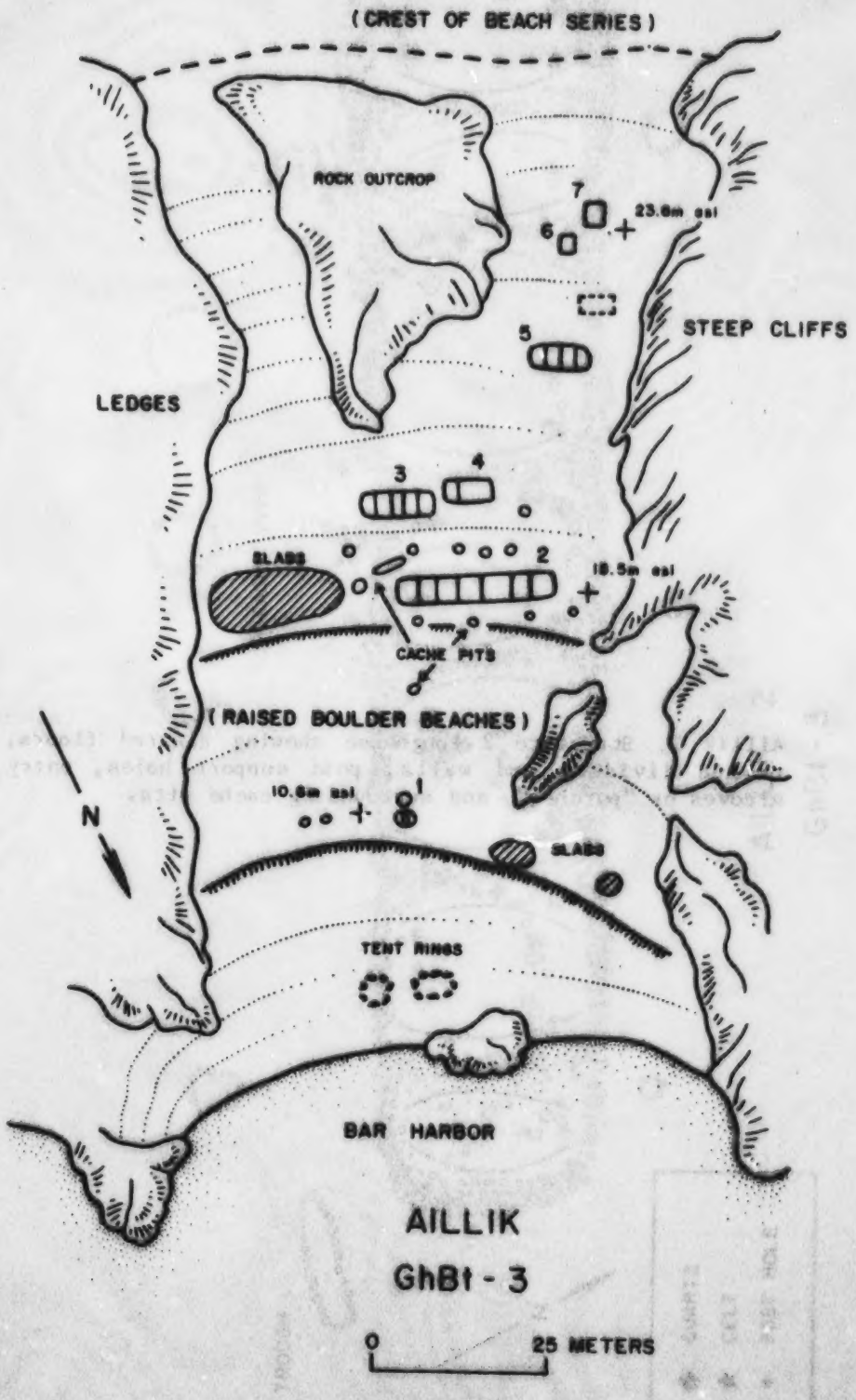


Figure 2

Ailik 2 (GhBt-3) beach sequence showing series of Maritime Archaic structures between the 24-18 metre levels. Structure 1 is a Palaeo-Eskimo structure.


(CREST OF BEACH SERIES)
ROCK OUTCROP
7
6
23.0m asl
STEEP CLIFFS
5
LEDGES
3
4
SLABS
2
18.5m asl
CACHE PITS
(RAISED BOULDER BEACHES)
10.6m asl
1
N
SLABS
TENT RINGS
BAR HARBOR
AILLIK
GhBt - 3
0
25 METERS

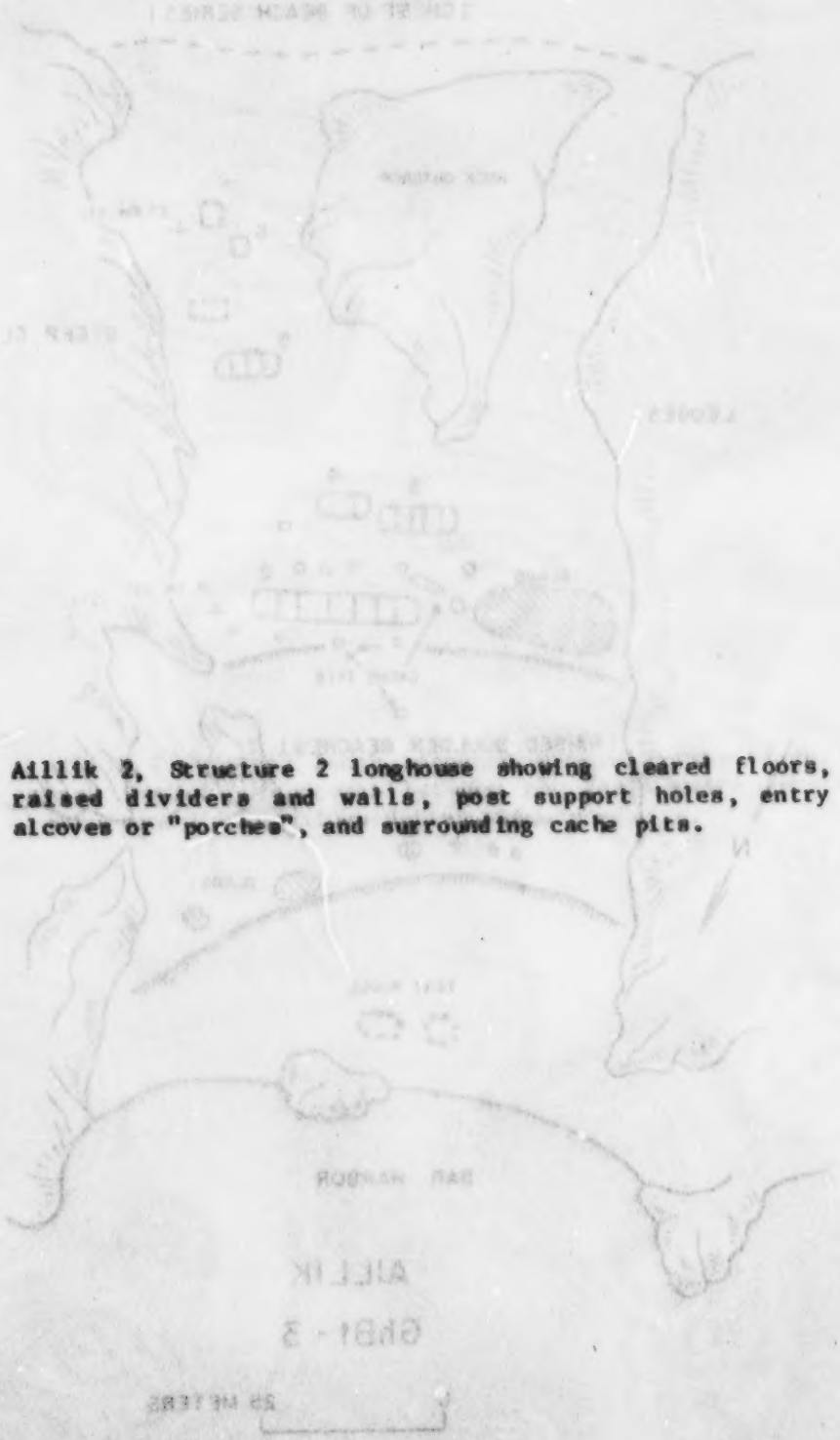


Figure 3

Aillik 2, Structure 2 longhouse showing cleared floors, raised dividers and walls, post support holes, entry alcoves or "porches", and surrounding cache pits.

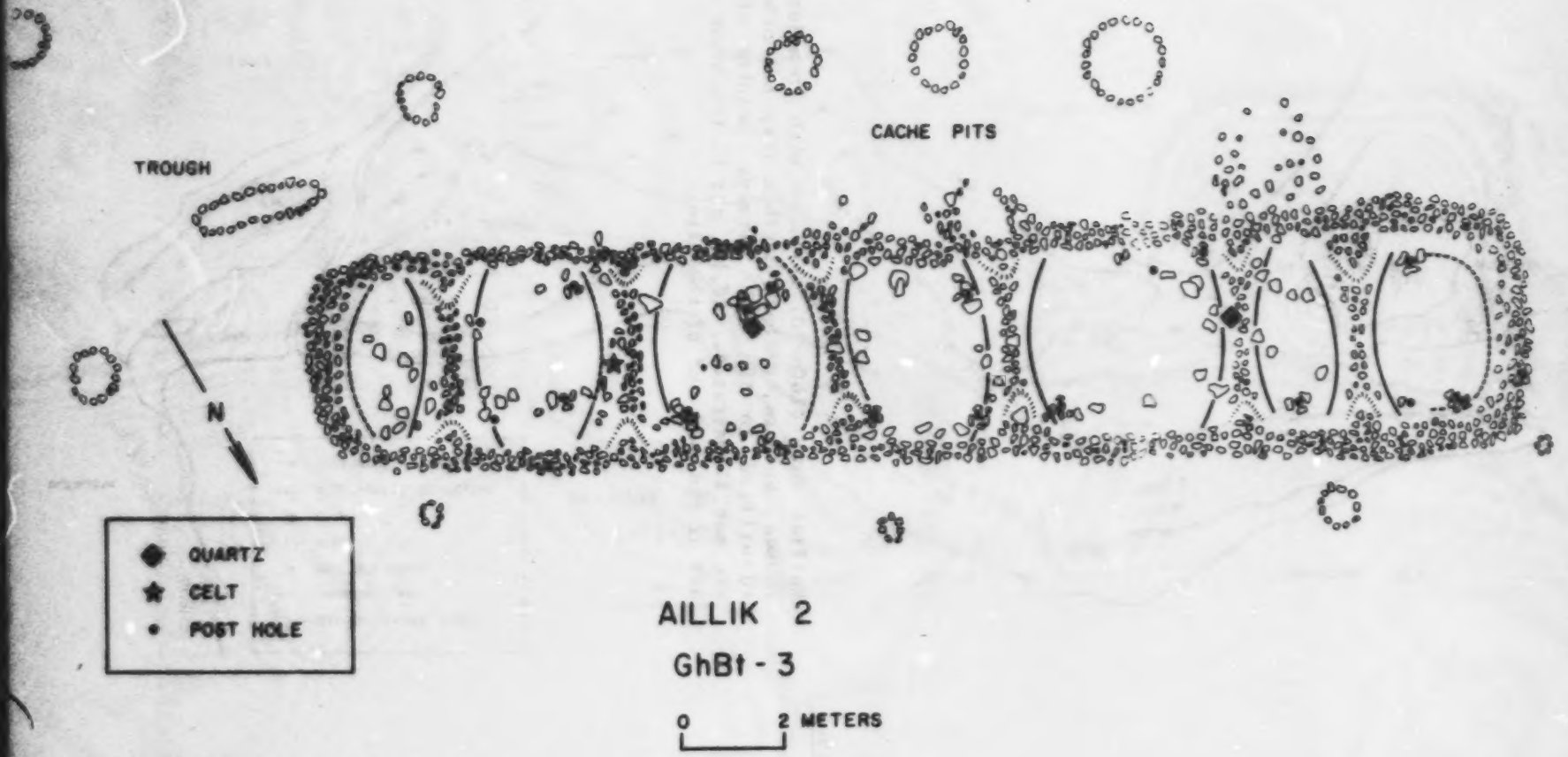
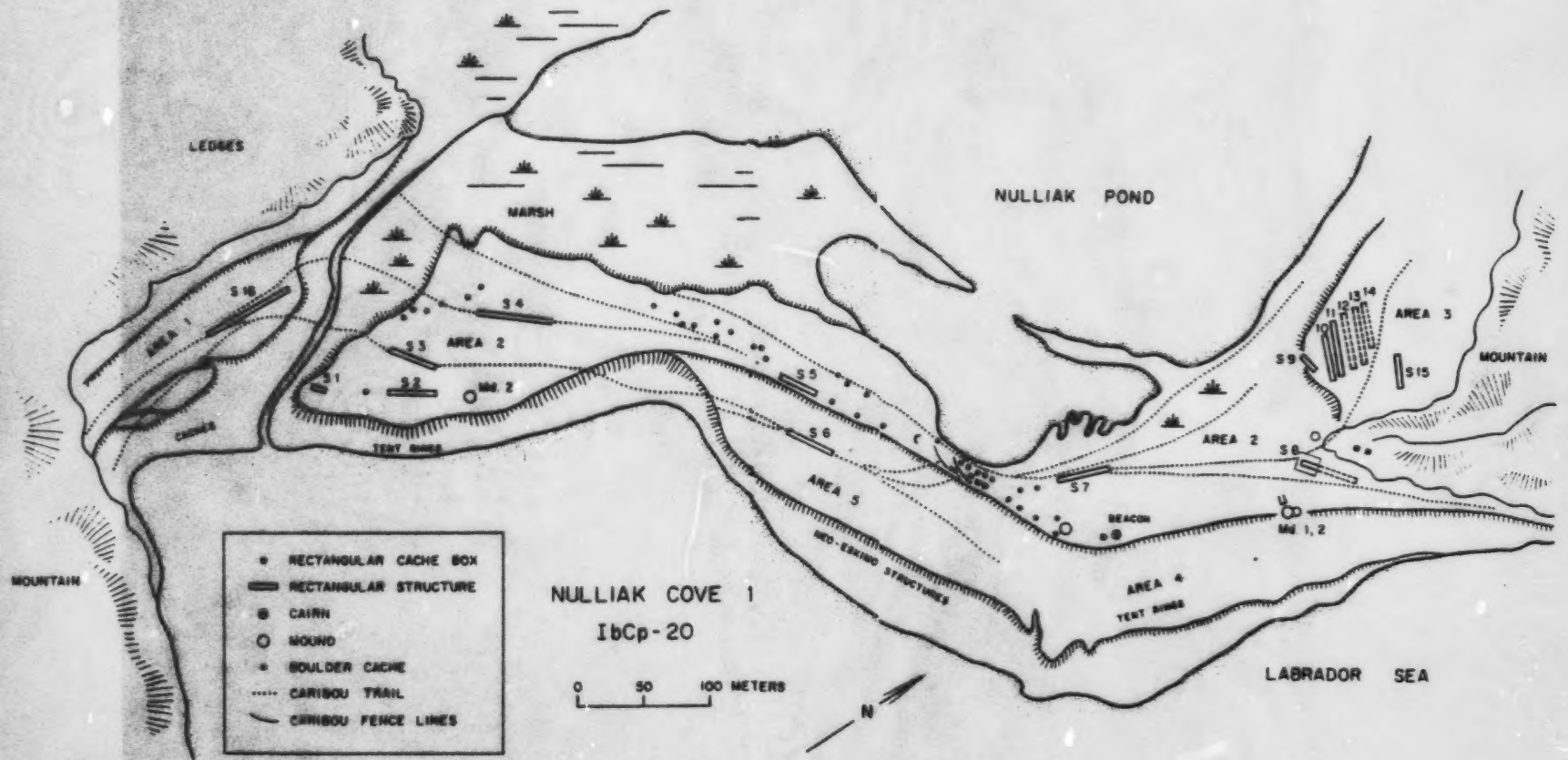

CACHE PITS
TROUGH
N
QUARTZ
CELT
POST HOLE
AILLIK 2
GhBt - 3
0
2 METERS

Figure 4

Nulliak Cove (IbCp-20) terraces with locations of longhouses, burials, caches, caribou trap and other features identified in the 1980 survey. Results of 1983 work are not illustrated. S8,11, and 15 longhouse excavations are at the east end of the site.


LEDGES
MARSH
NULLIAK POND
MOUNTAIN
AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S15
MD. 2
BEACON
MD. 1, 2
TENT RINGS
MED.-ESKIMO STRUCTURES
LABRADOR SEA
RECTANGULAR CACHE BOX
RECTANGULAR STRUCTURE
CAIRN
MOUND
BOULDER CACHE
CARIBOU TRAIL
CARIBOU FENCE LINES
NULLIAK COVE 1
IbCp-20
0 50 100 METERS
N

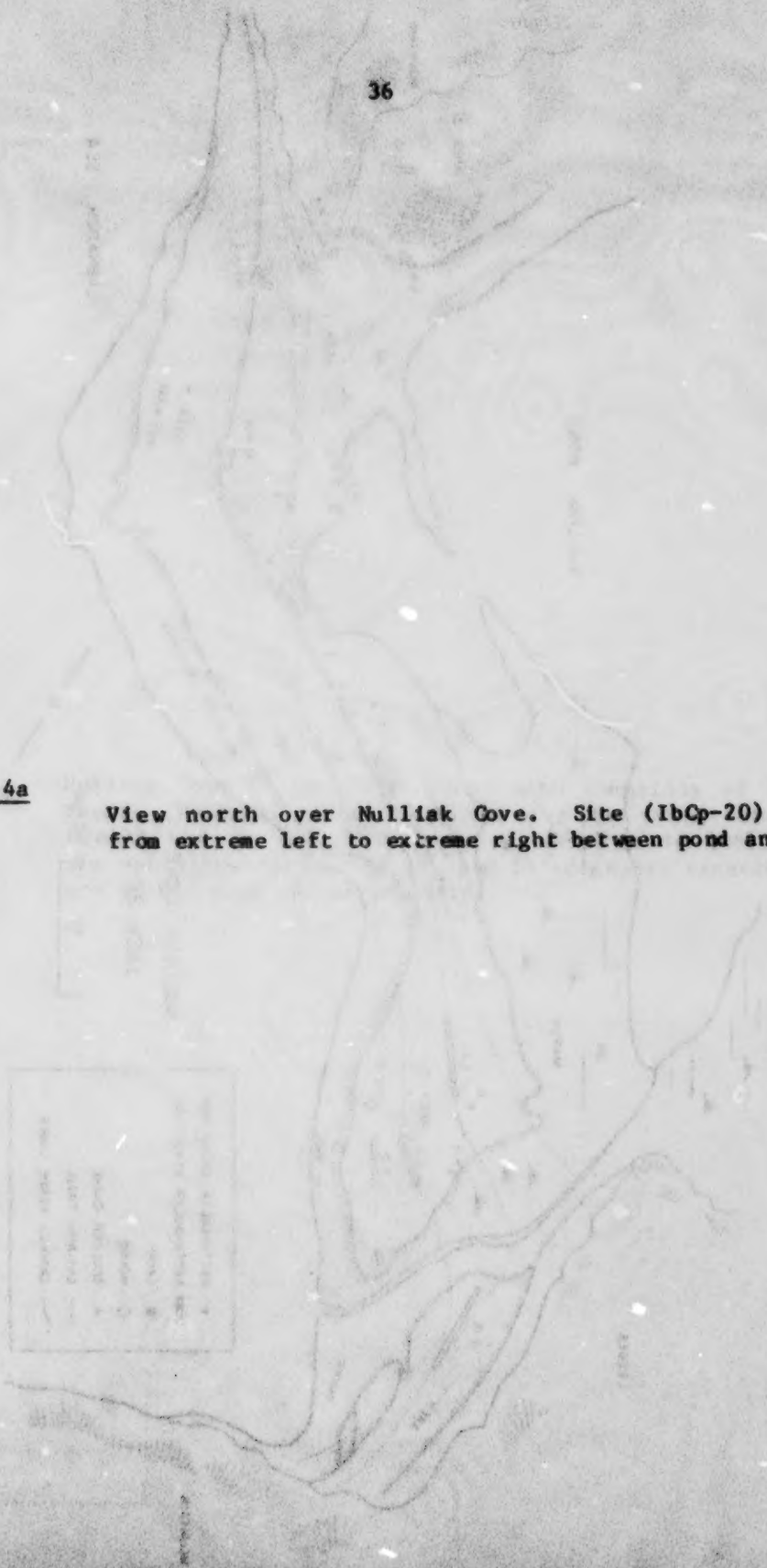
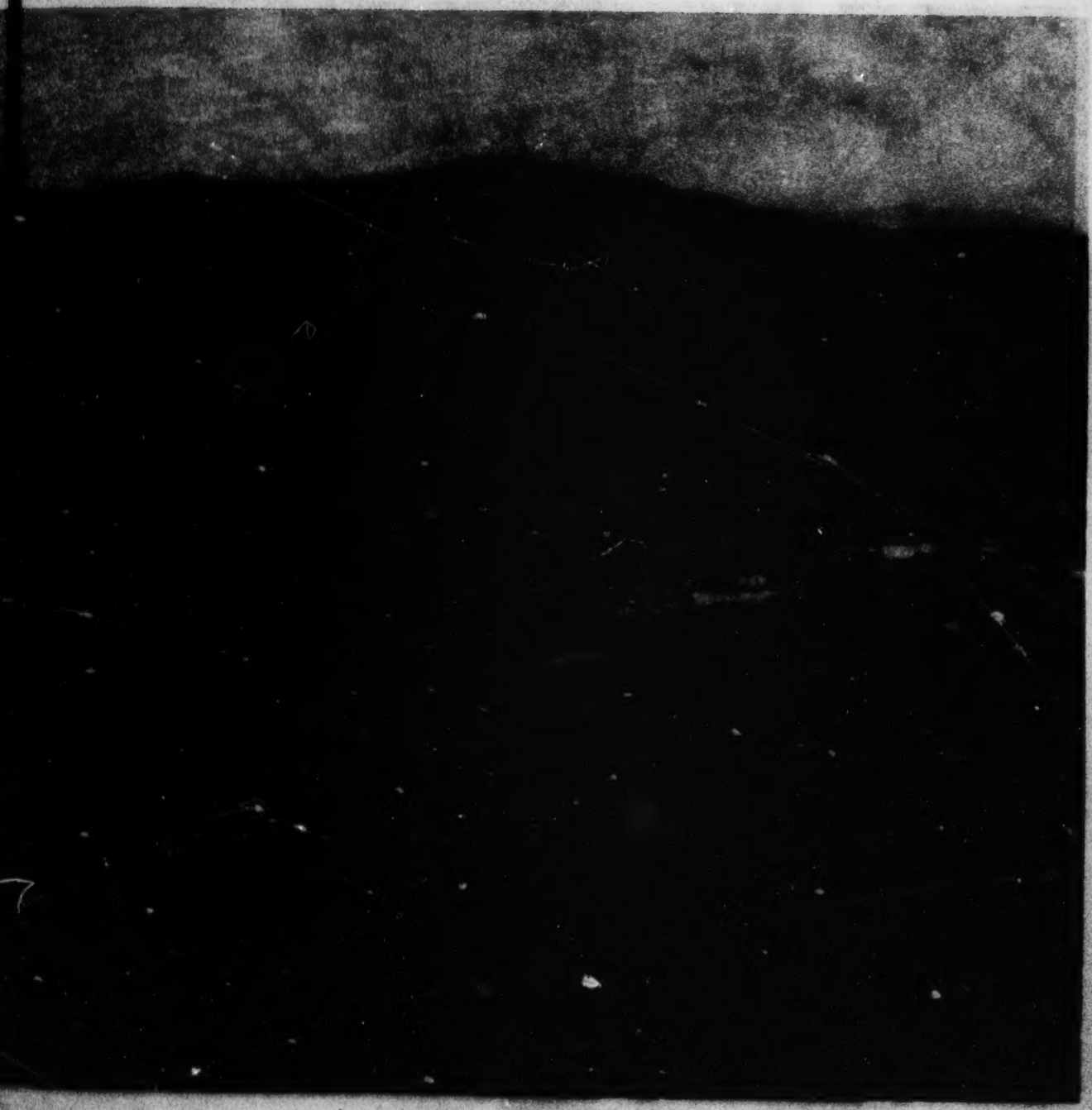


Figure 4a

View north over Nulliak Cove. Site (IbCp-20) extends from extreme left to extreme right between pond and cove.



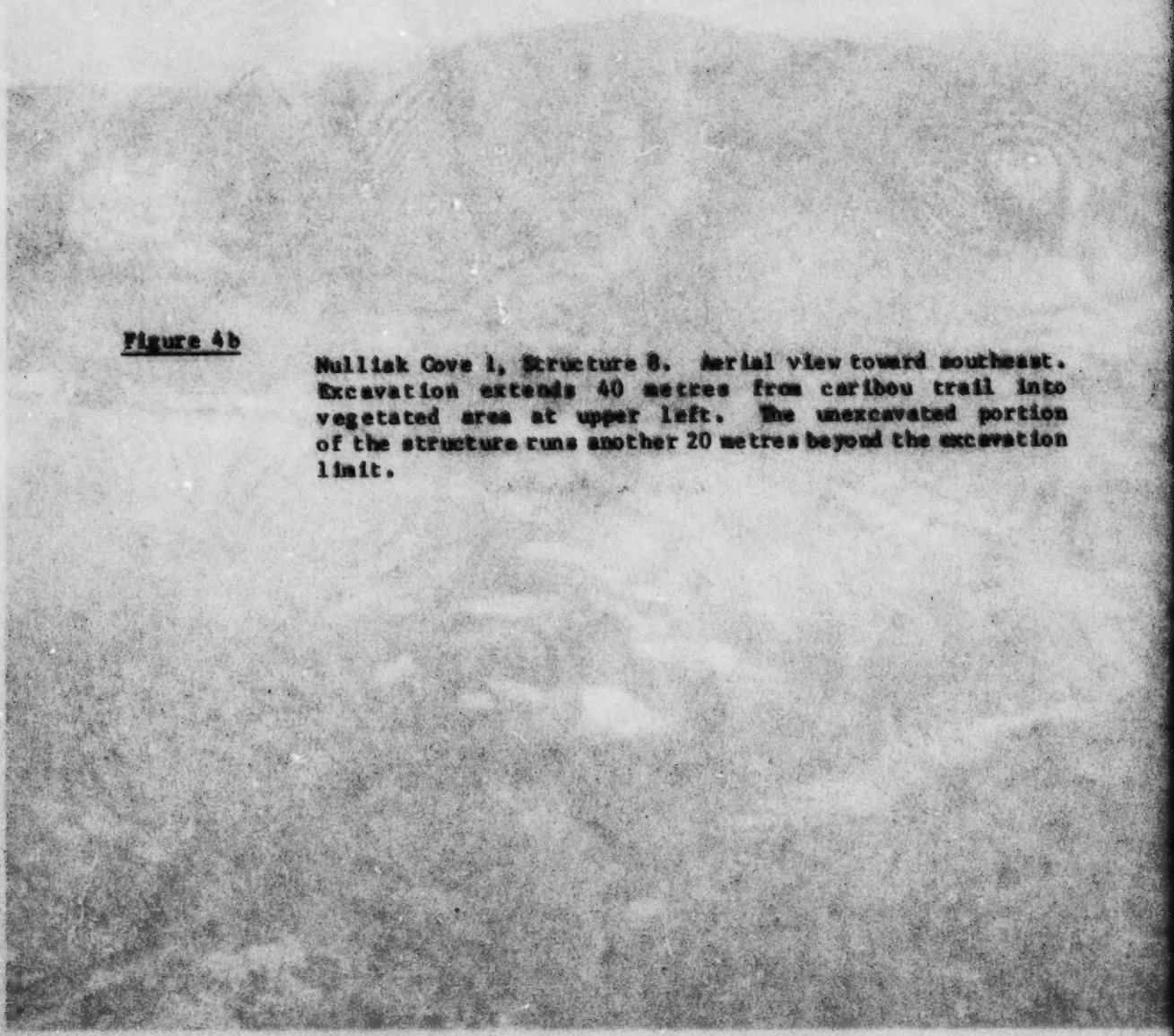


Figure 4b

Nulliak Cove 1, Structure 8. Aerial view toward southeast. Excavation extends 40 metres from caribou trail into vegetated area at upper left. The unexcavated portion of the structure runs another 20 metres beyond the excavation limit.

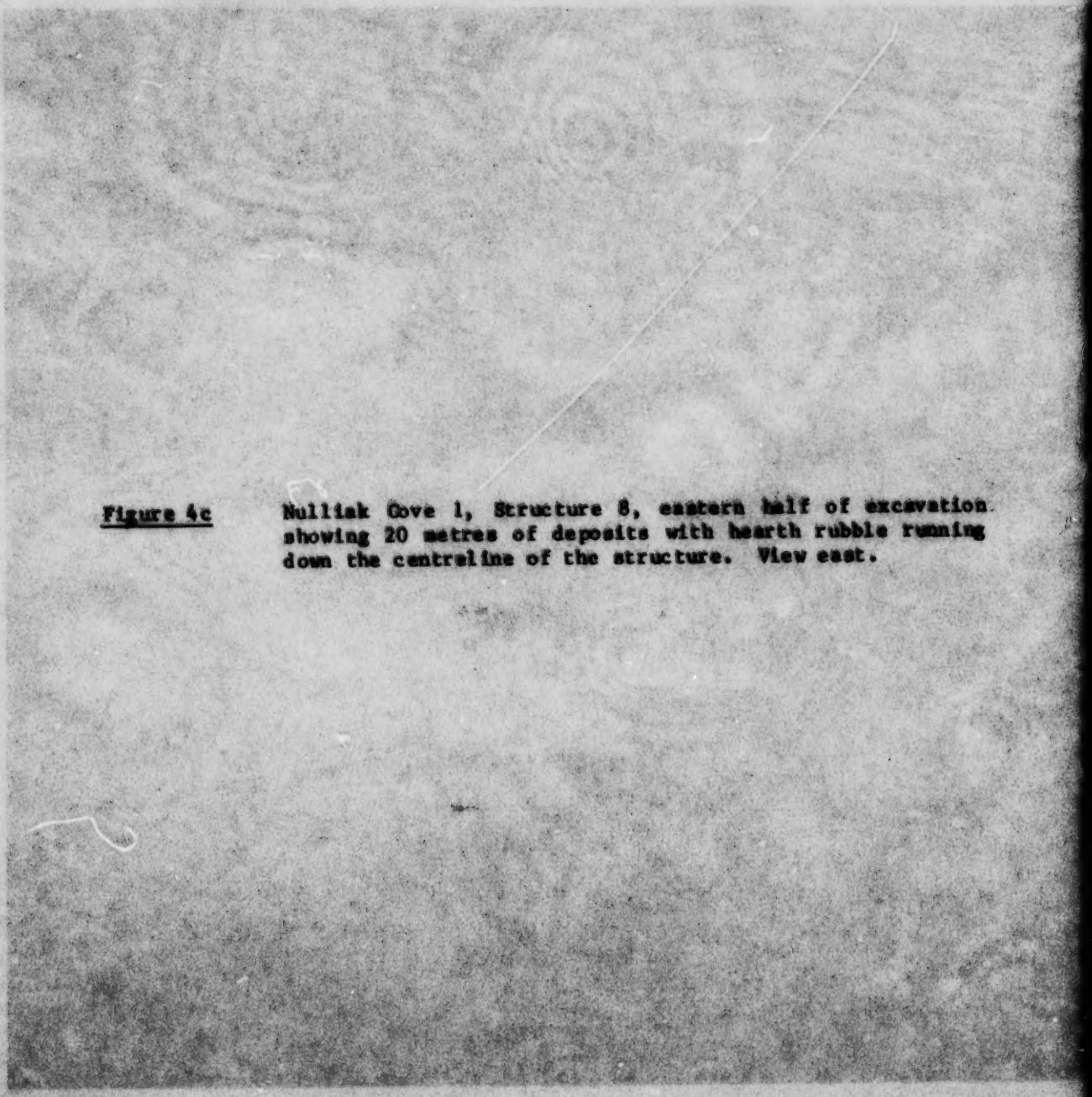


Figure 4c Nulliak Cove 1, Structure 8, eastern half of excavation showing 20 metres of deposits with hearth rubble running down the centreline of the structure. View east.

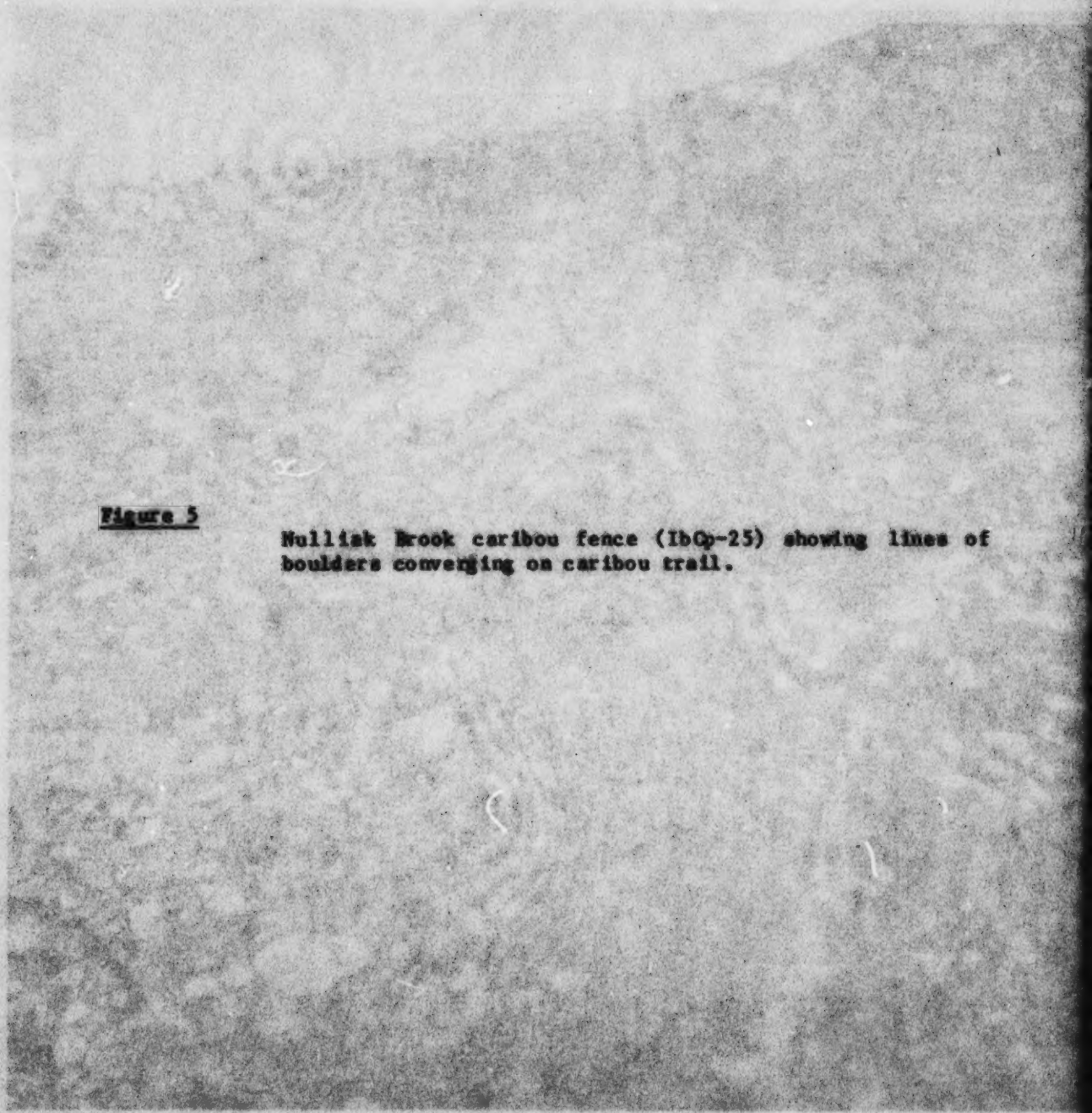


Figure 5

Nulliak Brook caribou fence (IbCp-25) showing lines of boulders converging on caribou trail.

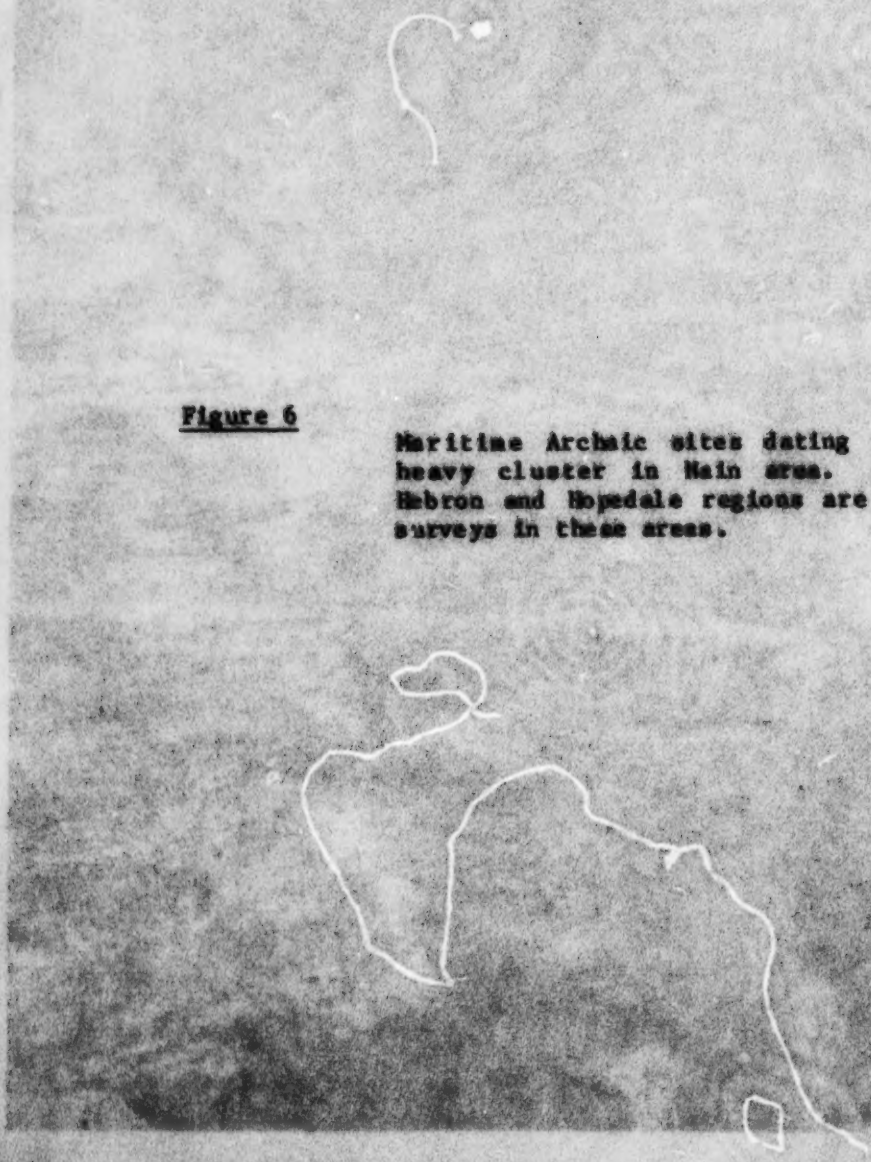
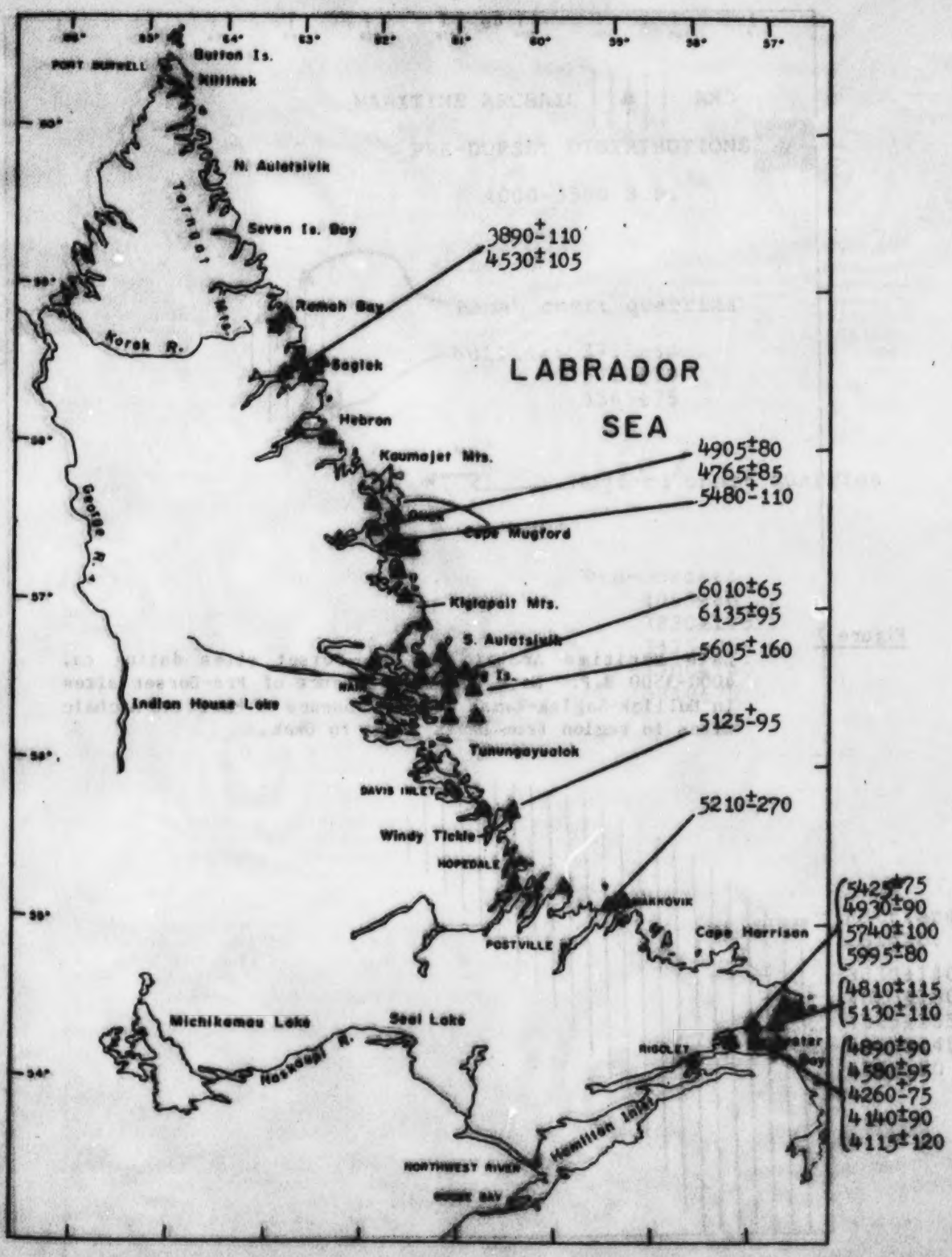


Figure 6

Maritime Archaic sites dating ca. 7000-4000 B.P. Note heavy cluster in Main area. Lack of high density in Hebron and Hopedale regions are probably due to limited surveys in these areas.


Button Is.
PORT BURWELL
Killinek
N. Auletsivik
Seven Is. Bay
Torngat
Nain
Korok R.
Saglek
Hebron
Kaumajet Mts.
George R.
Cape Mugford
Kiglapait Mts.
S. Auletsivik
Is.
Indian House Lake
Tunungayualok
DAVIS INLET
Windy Tickle
HOPEDALE
POSTVILLE
Cape Harrison
Michikamau Lake
Seal Lake
Naskaupi R.
RIGOLET
Hamilton Inlet
NORTHWEST RIVER
LABRADOR
SEA
3890±110
4530±105
4905±80
4765±85
5480±110
6010±65
6135±95
5605±160
5125±95
5210±270
5425±75
4930±90
5740±100
5995±80
4810±115
5130±110
4890±90
4580±95
4260±75
4140±90
4115±120

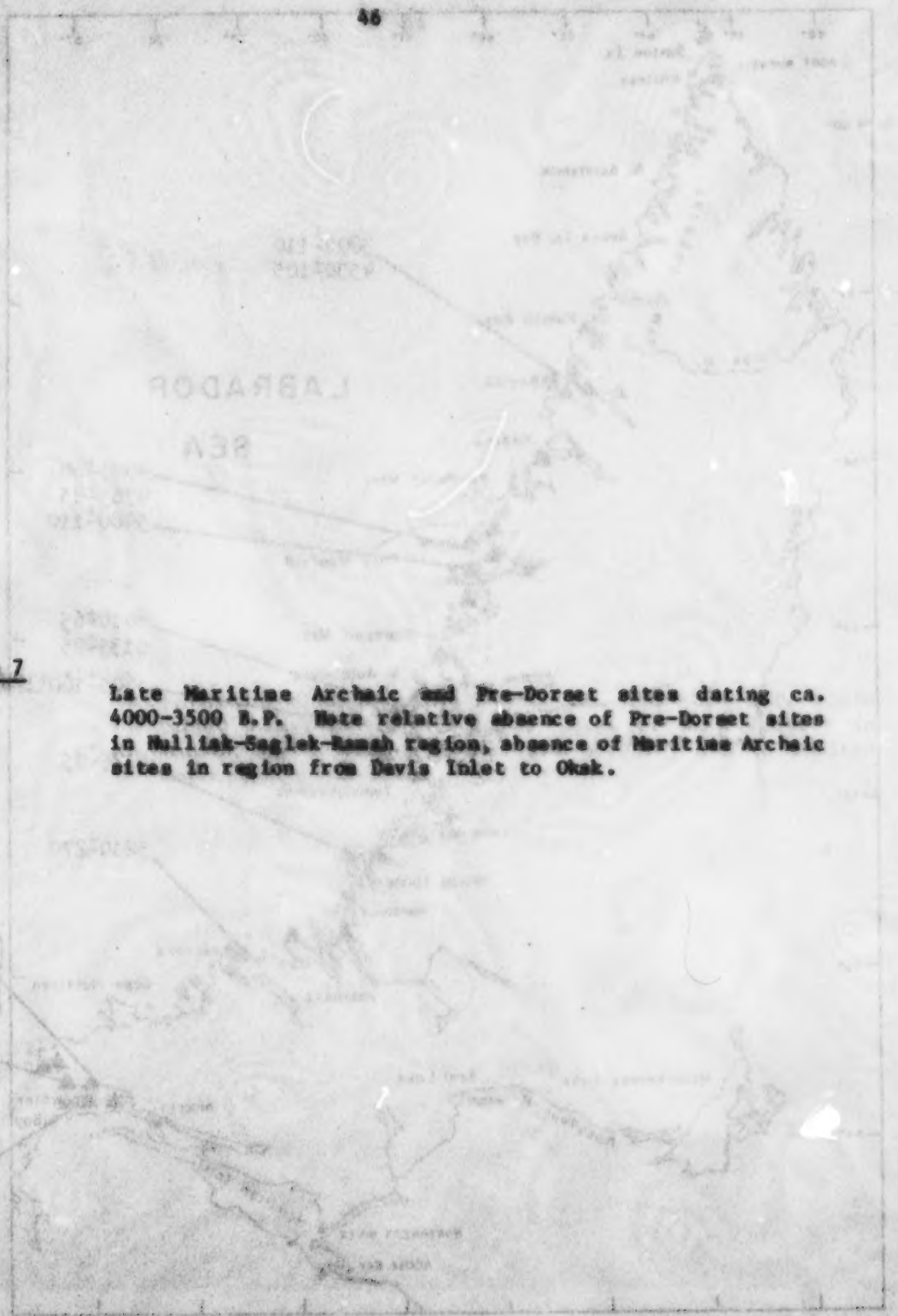
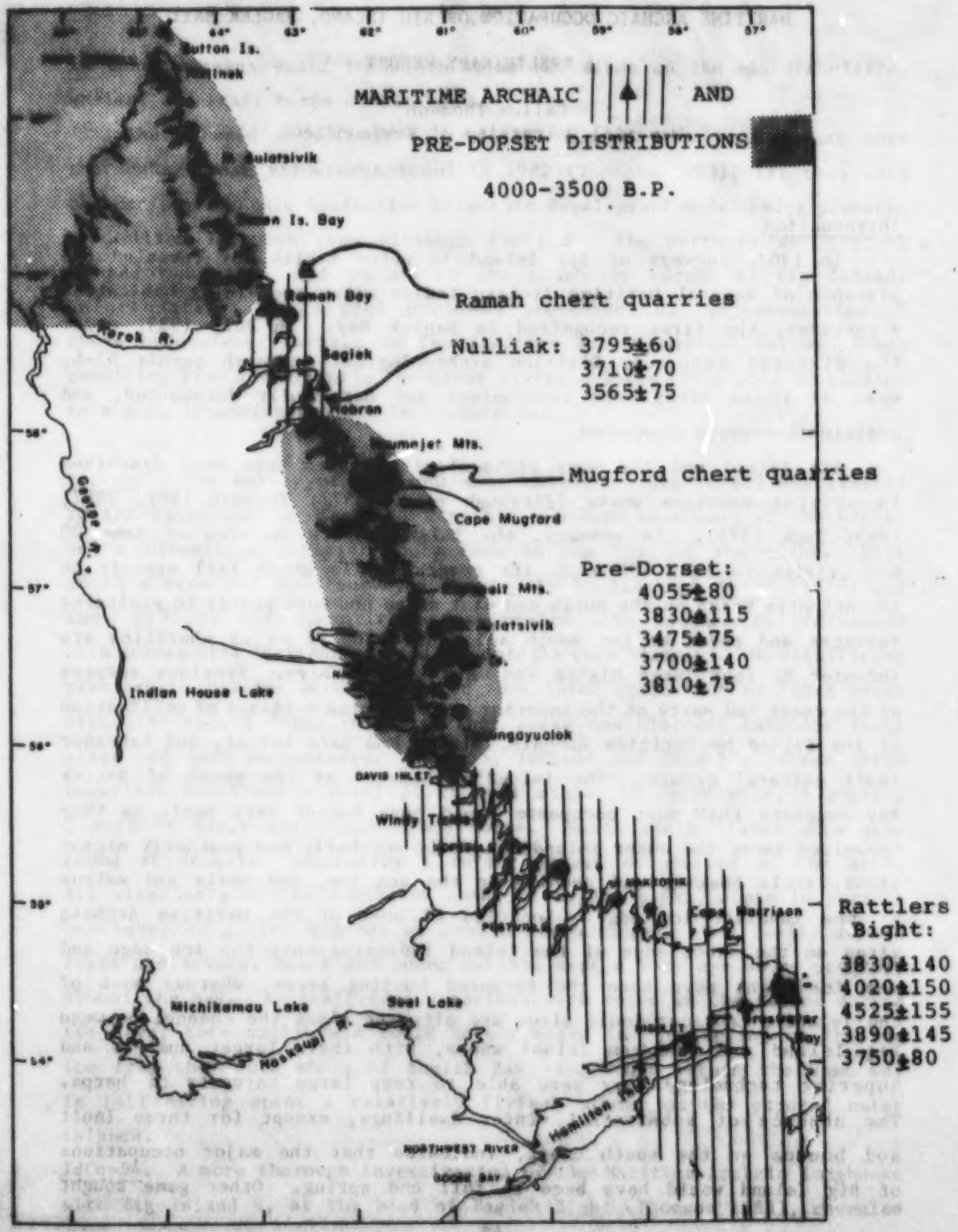


Figure 7

Late Maritime Archaic and Pre-Dorset sites dating ca. 4000-3500 B.P. Note relative absence of Pre-Dorset sites in Nulliak-Saglek-Ramah region, absence of Maritime Archaic sites in region from Davis Inlet to Okak.


MARITIME ARCHAIC AND
PRE-DOPSET DISTRIBUTIONS
4000-3500 B.P.
Ramah chert quarries
Nulliak: 3795±60
3710±70
3565±75
Mugford chert quarries
Pre-Dorset:
4055±80
3830±115
3475±75
3700±140
3810±75
Rattlers Bight:
3830±140
4020±150
4525±155
3890±145
3750±80
Sutton Is.
Ramah Bay
Nebrun
Cape Mugford
Indian House Lake
DAVIS INLET
Michikamau Lake
Seal Lake
NORTHWEST RIVER
GOOSE BAY

MARITIME ARCHAIC OCCUPATION OF BIG ISLAND, SAGLEK BAY:

A PRELIMINARY REPORT

Callum Thomson
Memorial University of Newfoundland

Introduction

In 1982, surveys of Big Island in outer Saglek Bay revealed the presence of several Maritime Archaic Indian sites containing habitation structures, the first recognized in Saglek Bay. In July 1983, under the Historic Resources Division archaeological research permit 83-6, some of these sites were re-examined and more fully documented, and additional surveys conducted.

Big Island and its many archaeological sites have been described in several previous works (Fitzhugh et al 1977; Thomson 1981, 1982, 1983; Tuck 1975). In summary, the island covers an area of some 20 km^2, rising to near 400 m on its several hills which fall steeply to the Atlantic Ocean on the north and east sides and more gently to sheltered terraces and coves on the south and west. The 35 km of shoreline are indented by four large bights and many smaller bays. Previous surveys of the coast and parts of the interior had presented evidence of utilization of the island by Maritime Archaic, Middle and Late Dorset, and Labrador Inuit cultural groups. The island's location at the mouth of Saglek Bay suggests that most occupants would have hunted harp seals as they travelled among the outer islands in their northerly and southerly migrations, seals basking and denning on the sea ice, and seals and walrus at the landfast ice edge. Location of most of the Maritime Archaic sites on the outer edge of the island indicates that the ice edge and sea ice might have been the favoured hunting areas, whereas most of the island's Labrador Inuit sites are situated along the channel between Big Island and Shuldham Island where, with their larger numbers and superior technology they were able to reap large harvests of harps. The absence of substantial winter dwellings, except for three Inuit sod houses on the south coast, indicates that the major occupations of Big Island would have been in fall and spring. Other game sought

in these seasons would include nesting sea birds on the eastern cliffs, whales, and small herds of caribou.

The planned objectives of the 1983 season were to document more thoroughly those structures found in 1982 (Thomson 1983), fit them into the Maritime Archaic habitation structure development model being prepared by William Fitzhugh (see Fitzhugh 1984) for the northern and central Labrador coasts, and to survey the southeast corner of Big Island. Unfortunately, logistical problems prevented full implementation of these objectives; details of the findings are summarized below. Funds remaining from the Historic Resources Division field grant will be applied to a more intensive project in preparation.

Surveys. The survey of the southeast corner of Big Island was limited to the east coast of Saglek Bight, the southern bays east of the bight, and a circuitous interior route back to the head of the bight. Part of this area had been surveyed previously by Fitzhugh et al (1977) and Tuck (1975); consequently, sites located were assumed to correspond with former site designations and few details were recorded. No significant prehistoric remains were discovered, but later comparison of field notes with site record forms indicated that three new historic Labrador Inuit sites had been encountered: IdCq-55, IdCq-56 and IdCq-57. These three locations contained a total of 29 tent rings, 17 cache pits, 4 graves, 2 sets of kayak rests and 1 sod house. Ramah chert flakes were also found at IdCq-56, suggesting a former Dorset occupation of the area. All sites were on the southeast coast of Saglek Bight, close to present sea level on active beaches or cobble beach ridges. One family of six foxes and several adult and young caribou kept a wary eye on my progress around the bay. At least twenty caribou were noted on the island during two days; this small herd would have crossed in late spring on the sea ice from the south shore of Saglek Bay, and would return the same way in fall having spent a relatively flyless summer on the exposed outer islands.

IdCq-54. A more thorough investigation of the Maritime Archaic longhouse site Big Island 9, at the head of Saglek Bight (Thomson 1983), revealed the presence of 10 caches, 1 grave or trap, a 2 m long trough of uncertain

function and an indistinct second longhouse structure on the adjacent boulder beach ridge, all within a radius of 50 m of the main longhouse. Disturbance of the beaches by wave and ice action may have destroyed other structures at this site. While its low elevation of 7 m above sea level seems problematic, the overall nature of the site suggests a date of occupation midway in the northern Labrador Maritime Archaic cultural sequence, around 5000 B.P. (see Fitzhugh 1984). This site has excellent potential for further investigation.

IdCp-23. On the following day I returned to three Maritime Archaic sites on the northeast coast of Big Island and more thoroughly mapped the structures found there in 1982 (Thomson 1983). At IdCp-23, Big Island East 9, I found a second locus 50 m northeast of the original longhouse, consisting of four circular paved structures with gravel and slab walls raised 10-30 cm above grade, and a 4 x 3 m rectangular structure with a raised gravel and slab wall, some interior paving, and what appeared to be a fallen stack of stone slabs at each corner, possibly post support features. The interior had been excavated some 35 cm below the terrace level. This structure resembles the 10 x 4 m longhouse, House 1, at this site, which has four divided rooms, post supports at each corner, at least three interior hearth locations, and a possible entranceway at the northwest corner. The east end of the structure is comprised of a thick gravel wall some 15-20 cm higher than the terrace and may have anchored the east wall of the house against prevailing fall gales from the exposed northeast. The longhouse is aligned with its long axis parallel to the shore of the bight 100 m north. Chunks of purple and white quartzites and two flakes of Ramah chert were found inside and around the structure. No lithic material was seen in the smaller longhouse or the paved structures at Locus 2. Until more investigation is conducted at this site it can not be determined whether or not the two loci are related in time or even cultural affiliation. However, the Locus 1 longhouse seems to conform with the middle phase of Fitzhugh's chronology and would therefore have been constructed around 5000 B.P. (see Fitzhugh 1984).

IdCq-48. The more complete of the two pit houses at IdCq-48, Big Island East 4, was mapped and photographed in more detail (see Thomson 1983).

Excavation of the vegetation and soil cover on the structure's floor did not produce the anticipated lithic material which would have helped to date this site. However, the two 1 m deep pit houses with associated caches, the elevation (14 m above sea level) of the site, and its resemblance to the Aillik 3 site estimated to be 6000-7000 years old (Fitzhugh 1984), suggest that a similar date of occupation would be appropriate for IdCq-48. As with the later longhouse sites, alignment of these four structures is parallel to the shore line. Materials used in construction include some massive boulders weighing several hundred kilograms.

Conclusions. The presence of these three Maritime Archaic habitation sites, as well as those at IdCq-47 (longhouse and cache pit), IdCp-18 (2 circular paved structures and 2 cache pits), IdCq-50 (2 tent rings), IdCq-51 (1 bilobate structure, 1 tent ring and 1 trap) (Thomson 1983), IdCq-6 (2 circular paved structures), IdCp-1 (secondary lithic manufacturing area), IdCq-8 (long, anomolous boulder structure) (Fitzhugh et al 1977), and IdCq-1 (lithic manufacturing area) (Tuck 1975), suggests that Big Island was utilized by Maritime Archaic Indians over a period of several thousand years as a temporary hunting area. The small size of most of the sites and the apparent dearth of lithic material at most does not indicate prolonged or repeated occupation by individual groups. Neither does the island seem to have played any role in the retrieval and reduction of the Ramah chert so prevalent in late Maritime Archaic sites further south, as one might expect in a location so close to the Ramah quarries.

Late on my second day in Saglek, the Tunuyak and crew from the Smithsonian Institution under William Fitzhugh arrived and, as they had already lost several days to bad weather and heavy pack ice en route north, we decided to abandon most of the remaining planned work in Saglek Bay, and the following day headed south to Nulliak Cove to commence work there. I had intended walking the 25 km back from Nulliak to the Saglek Petro-Canada base at the end of my stay, expecting to find evidence of near interior caribou hunting, so prevalent in the valleys behind Nulliak Cove, in the interior valleys and passes north to Saglek. Unfortunately the injury of another crew member required that I leave a few days early to accompany him to hospital in Goose Bay, thus postponing

the interior survey till another year. While waiting for the Petrocan plane at Saglek I was able to spend several hours searching (in vain) for yet another reported soapstone outcrop, this one in the vicinity of the former military base on top of Cape Uivak.

While I was able to accomplish only the equivalent of three days work on my own project, instead of the planned week or two, I did fit in several more days-worth in the hours before and after the regular (!) work day at Nulliak, and spent two very instructive weeks with Bill Fitzhugh and crew excavating the extensive late Maritime Archaic site at Nulliak Cove and surveying other locations between there and Hebron Fjord. These experiences will be of great value in future planned projects in northern Labrador. My thanks to Dr. Fitzhugh and his assistants for their hospitality and kind instruction, to the Petro-Canada officials in St. John's and Calgary for supplying logistical help and the Petrocan staff at Saglek for great hospitality, and to the Historic Resources Division, Department of Culture, Recreation and Youth, St. John's, for supplying the research permit, funding, and equipment.

REFERENCES

FITZHUGH, William

1984 Residence Pattern Development in the Labrador Maritime Archaic: Longhouse Models and 1983 Field Surveys. In Archaeology in Newfoundland and Labrador 1983, Jane Sproull Thomson and Callum Thomson eds. Annual Report 4. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

FITZHUGH, William, Steven LORING and Christopher NAGLE

1977 Field notes from the Torngat Archaeological Project survey of Big Island, Saglek Bay, 1977. On file at the Newfoundland Museum, Historic Resources Division, St. John's.

THOMSON, Callum

1981 Preliminary archaeological findings from Shuldham Island, Labrador, 1980. In Archaeology in Newfoundland and Labrador 1980, J. Sproull Thomson and B. Ransom eds., Annual Report 1: 5-25, Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

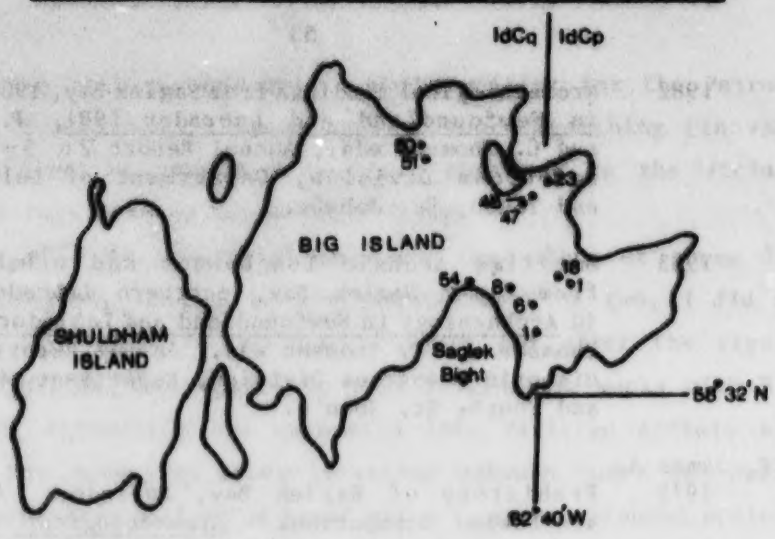
1982 Archaeological findings from Saglek Bay, 1981. In Archaeology in Newfoundland and Labrador 1981, J. Sproull Thomson and C. Thomson eds., Annual Report 2: 5-31. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

1983 Maritime Archaic longhouses and other survey results from outer Saglek Bay, northern Labrador, August 1982. In Archaeology in Newfoundland and Labrador 1982, J. Sproull Thomson and C. Thomson eds., Annual Report 3: 3-31. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

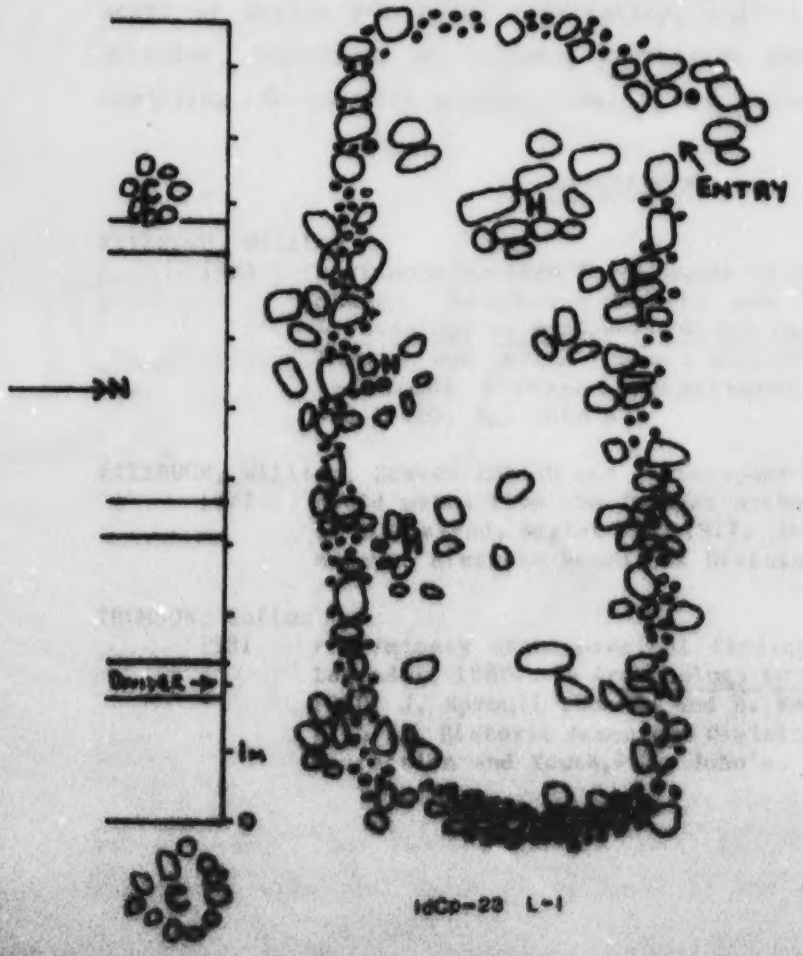
TUCK, James A.

1975 Prehistory of Saglek Bay, Labrador: Archaic and Palaeo-Eskimo Occupations. Archaeological Survey of Canada Mercury Series 32, National Museum of Man, Ottawa.

Maritime Archaic sites on Big Island, Saglek Bay



Maritime Archaic longhouse plan



Maritime Archaic pit house plan

ARCHAEOLOGICAL INVESTIGATIONS AT RED BAY AND BLACK BAY, LABRADOR

Ralph T. Pastore
Memorial University

Reginald Auger
University of Calgary

In 1982, Dr. James Tuck located evidence of a probable Inuit occupation in the harbour of Red Bay, Labrador. On Twin Island he found what appeared to be a tent ring of whale vertebrae and a small sod house. It seemed possible that this might be archaeological evidence of Joseph Banks' 1766 reference to Inuit camped on an island in Red Bay (Lysaght 1971:213). Some 10 km northeast of Red Bay, in Black Bay, Tuck reported another sod house, also apparently Inuit in origin. The question of Inuit occupation in the Strait of Belle Isle has long intrigued and divided investigators. In 1980, Taylor, Martijn, and Clermont pointed out the lack of knowledge about the chronology and activities of the Inuit in southern Labrador, and to a large degree this is still the case. Our plan, therefore, was to record and test the features reported by Tuck and to survey the Black Bay area in an effort to determine if further investigation would answer questions about the dates of an Inuit presence in the Strait, the nature of that occupation - whether seasonal or year-round - and the relationships between the Inuit and the various European groups who have exploited the region.

Red Bay (11 July-24 July)

During this period we investigated the two structures on Twin Island. The first of these, Twin Island-2, is located on the northern extremity of the island, some 4.5 m a.s.l. (Plate 1). It was a single roomed, sub-rectangular structure, ca. 4 m x 8 m, delineated by peat walls about 60-70 cm high. The entrance was ca. 1 m wide, located 90 cm east of the southwest corner (Figure 1). There was no entrance tunnel in the usual sense, but the walls on either side of the entrance flared outward to ca. 80 cm. After test-pitting the immediate exterior of the house, and failing to locate a midden, we divided the interior of the house into quadrants and excavated the northeast and southwest quadrants. Later we dug a 2 m x .5 m trench through the entrance, and 30 cm-wide

slit trenches along two east-west timbers found below 20 to 30 cm of sterile peat. The northerly of these timbers had been squared and measured ca. 12 cm on a side. The southerly timber was simply a log with a diameter of 10-15 cm. The six north-south rafters were also logs averaging 10-15 cm in diameter. The spacing of these rafters (Plate 2) suggested that perhaps two of the central rafters had been removed. The two slit trenches demonstrated that both east-west timbers were single pieces indicating that the structure had been topped with a flat, shed roof. No evidence that these timbers were lashed or nailed together was found, but the outer timbers contained nails with their heads protruding 5-10 mm above the surfaces of the wood, suggesting that the rafters had been covered with a piece of canvas or skin. A number of peat blocks found in the interior of this house was evidence that further insulation had been provided by blocks of peat piled on the covering. No vertical roof supports were found which led us to surmise that the roof timbers rested directly on the tops of the peat walls.

The living floor of TI-2 was a thin, 5 cm greasy black layer of organic material directly on the bedrock. The entire southwest quadrant was covered with a deposit of wood chips which extended well into the northeast quadrant (Fig. 1). Numerous pieces of cut wood also attested to what must have been extensive woodworking. A small amount of charcoal was recovered approximately 20 cm from the edge of the interior in the southwest quadrant, but this appeared to be too little to have been the remains of a hearth. The house may have been heated by a seal oil lamp, but we found little evidence of burnt fat. It is quite possible, however, that the hearth or lamp was in one of the unexcavated quadrants.

The interior of TI-2 produced surprisingly few artifacts. Most notable were 81 wrought nails, 40 pieces of cut wood, 18 red-glazed, coarse earthenware sherds, fragments of a pipe bowl and stem, 5 pieces of sheet lead, four gun flints, of which one was identified as French and the other English in origin (R. Stevens, personal communciation), several sherds of green pane glass, a few fragments of a glass vessel, two small pieces of an yet unidentified fabric, and two lengths of cut baleen. No bone or ivory was found, but this may have been due to the acidity of the matrix (standing water in the house had a pH of 4.5).

The lack of diagnostic artifacts in TI-2 makes it difficult to arrive at firm conclusions about its occupants. Its exposed location, flared entranceway, unusual roof construction, and lack of evidence for a chimney argue for a non-European construction (G. Pocius, personal communication). We might also note the lack of ceramic goods usually found with 18th and 19th century European structures. The rather large number of nails not used in house construction is suggestive of the Inuit practise of using nails as raw material for tools, except that none of the recovered nails showed signs of modification. There is a possibility, therefore, that this is a European structure. The dating of this house is also a problem, although its hand wrought nails provide some clue. Wrought nails were superceded by cut nails after the 1790's, and even allowing for the persistence of outmoded nails in places such as southern Labrador, it is difficult to imagine that TI-2 would have been occupied much after the first quarter of the 19th century.

The smallness of this house, its simple construction, and the scarcity of its associated artifacts contrast sharply with larger, more elaborate houses of Eskimo Island 1 and 2 in Hamilton Inlet as described by Jordan (1974) and Jordan and Kaplan (1980). Artifact collections from late 18th and early 19th century houses in Hamilton Inlet also reveal a much wider range and number of European goods. If TI-2 is Inuit in affiliation, we believe, rather cautiously it must be said, that it is evidence of a short stay, perhaps a winter hunting or trading trip, by a small Inuit group in the late 18th or early 19th century.

Twin Island 3 lies 5.2 m above sea level on an exposed, windswept hill ca. 130 m southwest of TI-2. Limited testing here revealed what appeared to be a whale vertebrae tent ring ca. 4.75 m in diameter. Three vertebrae were excavated and 9 more pieces of bone assumed to be vertebrae were noted either visually or by probing. Nine square metres were excavated inside the tent ring, producing only 27 badly corroded wrought nails, none visibly modified, 4 chunks of European ballast flint, 1 piece of baleen, and 3 unidentified bone fragments. Six 50 cm^2 test pits and a trench of 2 m x .5 m revealed exterior middens where wrought nails, ballast flint, baleen, and other organic material overlay a Maseque occupation. We found no diagnostic Inuit artifacts

here, but excavations by Tuck later that summer resulted in the recovery just outside the tent ring of a drilled soapstone fragment encrusted with burnt fat which appears to be a portion of an oil lamp refashioned into a pendant (Plate 3). Although the tent ring may be either Inuit or Indian in origin, the presence of a soapstone object argues strongly for an Inuit presence. TI-3 also appears to be the result of a brief occupation, perhaps the summer dwelling of the people who built TI-2, which must have been built in the summer.

Black Bay (25 July-28 July)

For the first part of our stay in this area we surveyed the southwest side of Black Bay (Plate 1) where we located three previously unreported sod houses and a boulder fox trap. Following this survey we tested and mapped the sod house in Wiseman's Cove previously reported by Tuck. The Wiseman's Cove house was sub-rectangular, measuring 6 m by 4.5 m, with walls averaging 90 cm high, and an entrance directly in the north corner of the structure (Plate 4). The house lies in a narrow valley, 2.1 m a.s.l. A 1 m x 2 m test pit inside the walls revealed a timbered roof fastened with wrought nails over a sand floor. The test pit also produced 21 bones, which prior to analysis appear to be mostly seal, 24 wrought nails, and a fluted pipe bowl characteristic of the period 1780-1820 (Noel Hume 1970). A 2 m x 2 m test excavation immediately in front of the entrance yielded a large quantity of ceramics and iron objects, dating to the mid-19th century or later. The lack of artifacts that could be associated with the house is puzzling, but may be the result of a heavy sea, which, given the proximity of this house to the water, could have swept clean the unprotected area outside the house. The location of this house in a cove known even today for its good sealing combined with the presence of seal bones in the house suggests that it was a sealing camp. The pipe bowl argues for a late 18th century-early 19th century occupation, and the corner entrance combined with an interior midden points to Inuit rather than a European origin. Nonetheless, our excavation here has been very preliminary, and we would not rule out the possibility of a different interpretation.

Recommendations

We believe that further work at Twin Island, Wiseman's Cove, and Black Bay would result in a better understanding of the chronology and purpose of what appear to be brief Inuit winter and summer occupations of these areas. Our impression is that the sites we have reported represent temporary hunting or trading camps dating to the late 18th or early 19th centuries, but until more work is done, these must represent impressions rather than conclusions.

Acknowledgements

This project was funded by a Memorial University Vice- President's Research Grant, and a grant from the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador. We would also like to thank Mr. Charles Burke, Parks Canada, for his analysis of the ceramics and glass, Dr. Robert Stevens of MUN Geology, and Prof. G. Pocius, a specialist in Newfoundland vernacular architecture from the Memorial University of Newfoundland Folklore Department.

REFFRENCES

JORDAN, R.H.
1974 Preliminary report on archaeological investigations of the Labrador Eskimo in Hamilton Inlet in 1973. Man in the Northeast 8:77-89.

JORDAN, R.H. and S. KAPLAN
1980 An archaeological view of the Inuit/European contact in central Labrador. Etudes/Inuit/Studies 4(1-2):35-45.

LYSAGHT, A.M.
1971 Joseph Banks in Newfoundland and Labrador, 1776. London, Faber and Faber.

MARTIJN, C.A. and H. CLERMONT
1980 La terre que Dieu donna a Cain/The Land God allotted to Cain. Etudes/Inuit/Studies 4(1-2):5-11.

NOEL HUME, Ivor
1970 A Guide to the Artifacts of Colonial America. New York, Knopf.

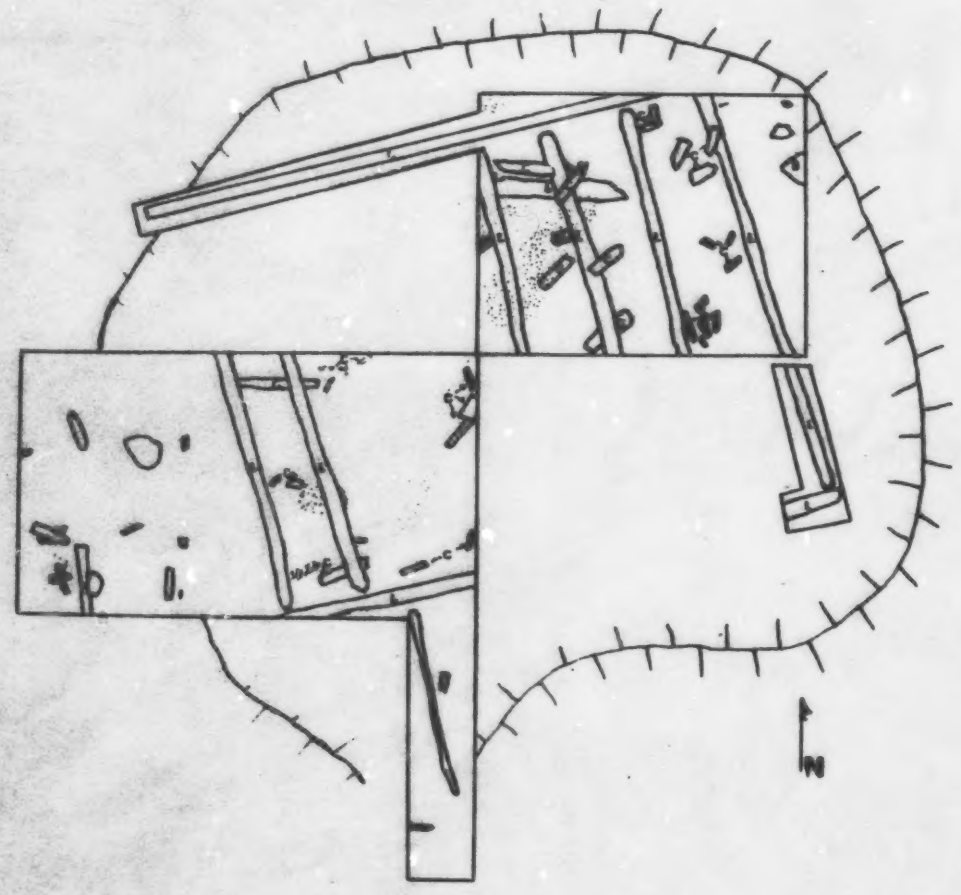
TAYLOR, J.G.
1980 The Inuit of southern Quebec-Labrador. Etudes/Inuit/Studies 4(1-2):185-194.

PLATE 1

Southern Labrador from Red Bay To Black Bay

FIGURE 1

Peat-walled house at Twin Island-2 (EkBc-6)



Twin Island-2 (EkBc-6)

SOD HOUSE

LEGEND

L Log

C Charcoal

Bedrock depression

Wall crest

N

1 2 M

PLATE 2

Twin Island-2, peat-walled house, looking south

PLATE 3

Drilled soapstone, Twin Island-3

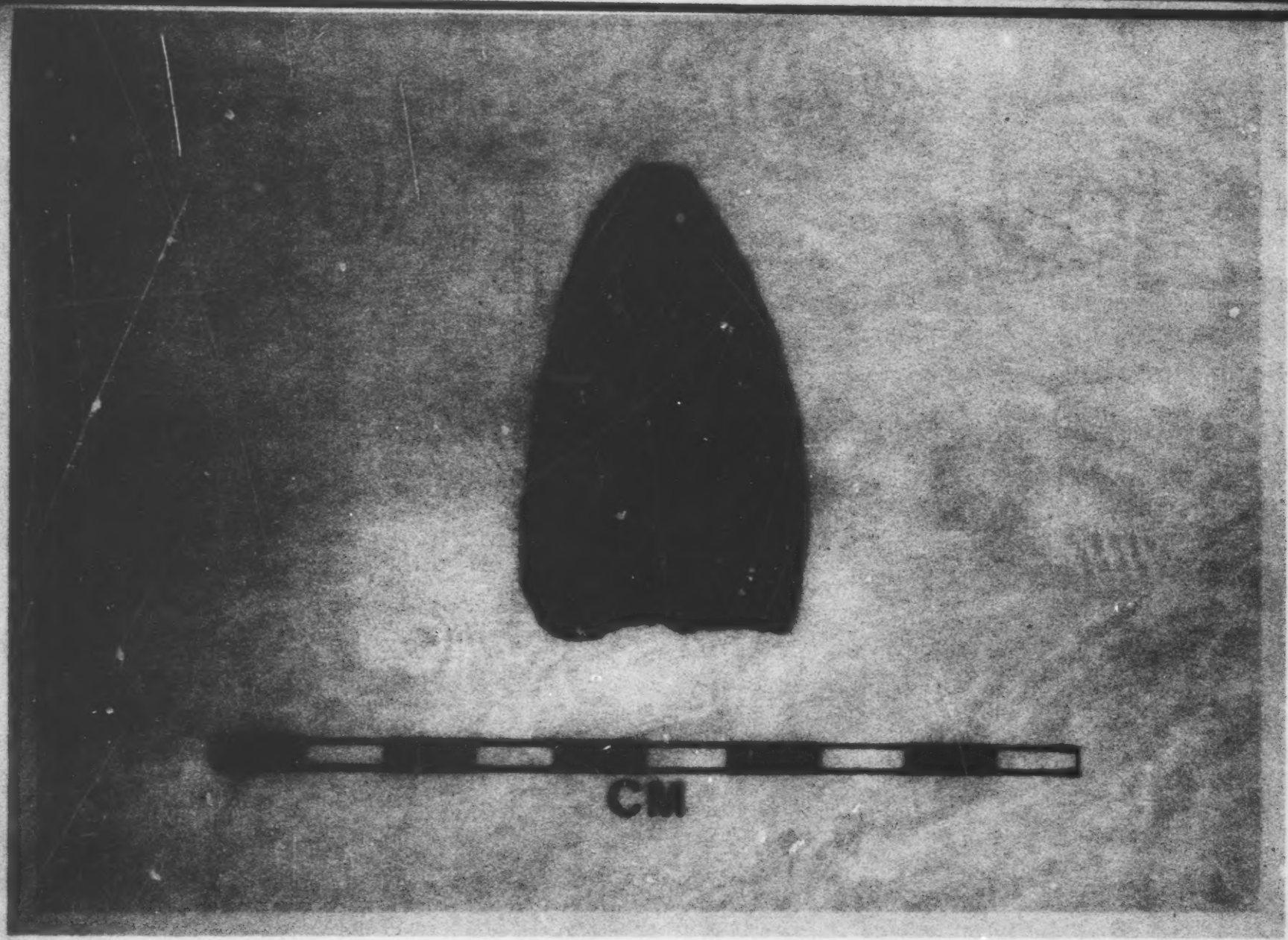
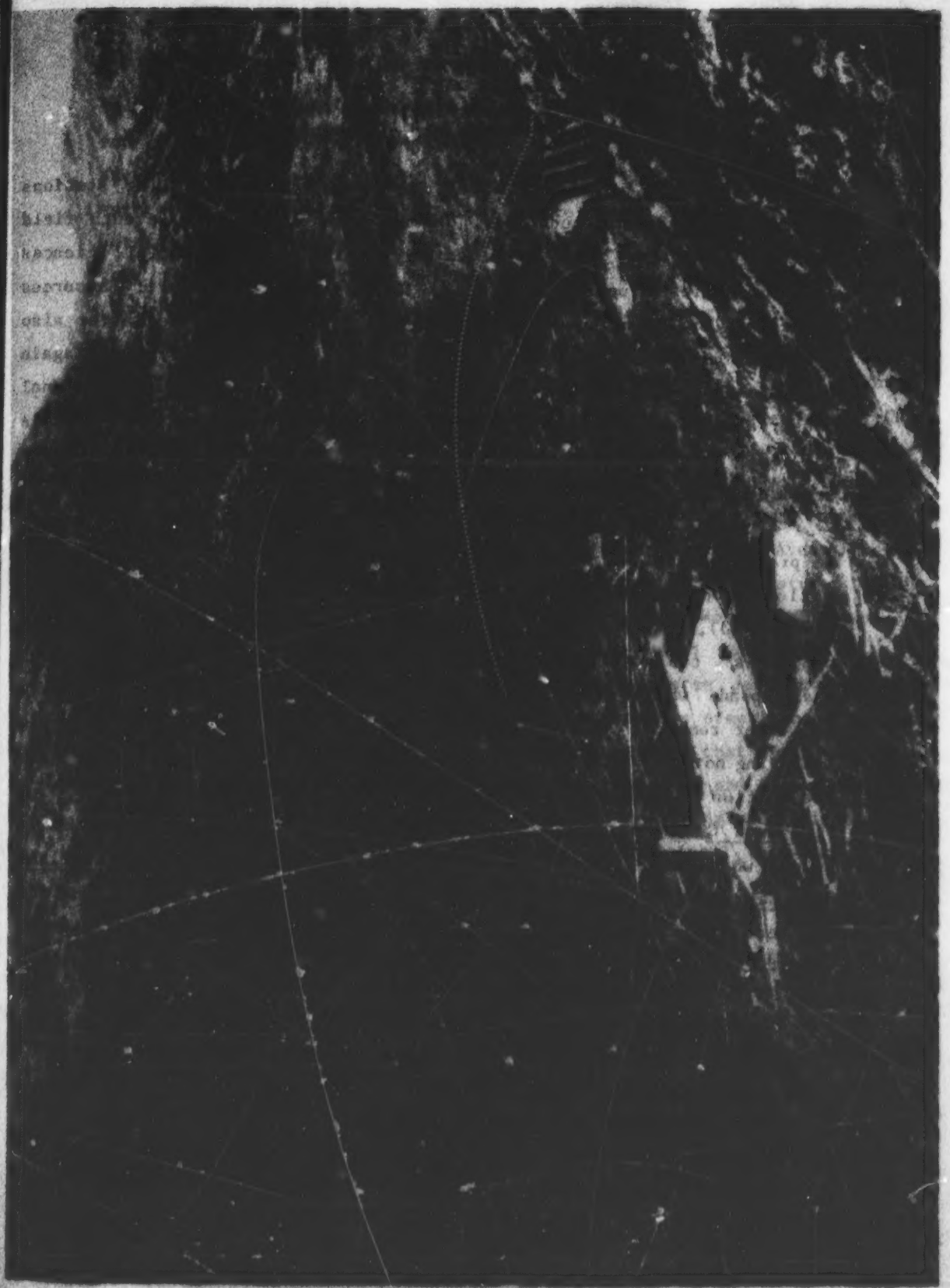

CM

PLATE 4

Sod House, Wiseman's Cove (EkBc-11).
Reginald Auger is standing in the entrance.



1983 EXCAVATIONS AT RED BAY, LABRADOR

James A. Tuck
Memorial University of Newfoundland

Excavations at the 16th century Spanish Basque whaling stations at Red Bay, Labrador continued, during 1983, into their seventh field season. Work was again financed by grants from the Social Sciences and Humanities Research Council of Canada and the Historic Resources Division, Department of Culture, Recreation and Youth. The latter also issued permit no. 83-4 under which the work was conducted. Once again the Canadian Conservation Institute provided a full-time professional conservator for the duration of the field season, equipment and materials for field stabilization of objects, as well as analytical and conservation services during the winter of 1983-84.

Although this was our seventh summer at Red Bay the area continued to provide surprises in the form of new information and material. Excavations concentrated on the large cemetery discovered in August 1982 (Tuck 1983), a structure near one of the previously-excavated tryworks or "ovens", two small habitation sites on nearby Twin Island, and several small ponds which proved to contain remarkably well-preserved organic and other remains. Each of these excavations is described briefly below including not only a discussion of the features themselves, but a preliminary description of the artifacts and other material recovered.

AREA G is the location of a large and well-preserved tryworks or "oven" which was reported and illustrated in Archaeology in Newfoundland and Labrador 1982 (Tuck 1983). Excavations were extended inland to the west and south of the tryworks during 1983 where several large stone structures had been partially excavated during the 1982 field season. These included a large rectangular rock foundation and two circular rock and clay features overlying a deposit of wood charcoal covering more than 20 square metres and up to 50 cm thick.

At the close of the 1982 excavations we were baffled by these structures for we could neither age them with any precision nor could we ascribe a function to either the rock and clay features or the large foundation. The artifacts recovered from the area indicated at least two episodes

in the use of these features -- one of the 16th century Basque period and a more recent late 19th and early 20th century occupation by the ancestors of the present inhabitants of Red Bay. At the time we also suspected, but were unable to demonstrate, some occupation intermediate between the two (Tuck 1983:98). We believed, however, that the circular rock features were likely of Basque origin since the clay from which they were partially constructed appeared identical to that used to mortar the tryworks which are well dated to the 16th century. A survey on the west side of "The Basin", or inner harbour, however, revealed several exposures of grey clay which resembles the material used in both the tryworks and the features at Area G. Hence, the attribution of the Area G features to the Basque period on the basis of the clay used in their construction began to seem unlikely. At about the same time that the Basin survey was taking place careful excavations at Area G began to reveal material associated with the circular stone features which dated neither to the Basque occupation nor to the more recent use of the site by 19th and 20th century fishermen. Hand forged nails with heads unlike those of the late 16th century, coarse earthenware with a green glaze also unlike that from Basque occupation areas, what appears to be a lead bale seal, and other artifacts suggested that our hypothesis of an occupation intermediate in time between the 16th and 19th centuries was probably correct. This information, and other data obtained from Area G allow us to reconstruct at least a provisional history of the use of the area.

The earliest utilization of Area G was clearly by 16th century Basques, for the lowest levels of the site, usually on, or close to, sterile beach gravels, produced roofing tile fragments, nails, coarse earthenware and majolica ceramics, and other artifacts which can be duplicated many times over from other areas of 16th century occupation. A preliminary assessment of the distribution of the 16th century material suggests that the material does not correspond with either the circular features or the rectangular foundation. A few post molds, however, which do not seem to pertain to the large rock foundation, may represent the remains of a Basque structure in this area. It is impossible, however, to be precise about the nature of the 16th century utilization of Area

G. The general pattern established for other shore stations on Saddle Island (c.f. Tuck and Grenier 1981) suggests that a cooperage/dwelling where casks were assembled and repaired and where the coopers also lived should be associated with the tryworks located a few metres north and east of the 1983 excavations. However, no evidence of coopering, either in the form of coopers' tools or refuse from coopering has yet been recovered. As indicated above, building hardware and domestic refuse dominates the meagre collection, hence the best explanation we can offer at present is that the 1982 and 1983 excavations in this area have revealed a small dwelling site from the 16th century, perhaps occupied by coopers or the men responsible for operating the nearby tryworks.

The suspected intermediate occupation seems now to have been confirmed by a few artifacts associated with the circular rock and clay features. Moreover, we are now able to offer at least a tentative explanation for its presence. The nearly complete excavation of one of the circular rock and clay features revealed not only the artifacts of the late 18th/early 19th centuries but at least small quantities of what is unmistakably burned fat associated with this feature. This led the excavator, Stephen Mills, to postulate that the features were "sealing ovens" where the fat removed from seal pelts was rendered into marketable oil. In contrast to the tryworks associated with whaling, those used to render seal oil must be fired with wood since the remaining unrenderable fat is not sufficient for use as fuel as is the case in the trying-out of whale blubber. This hypothesis is strengthened by information obtained at the site of a Jersey sealing station located about 80 km west of Red Bay at Isle au Bois, Quebec. One of the students employed at these excavations described the tryworks there as very similar to those from Area G, including the vast amounts of wood charcoal surrounding them. Finally, a date of 150±50 years B.P. (Beta-7268) suggests that the late 18th/early 19th estimate for the age of these features seems reasonable. It remains impossible to say exactly who the proprietors of this enterprise might have been, although a more thorough analysis of the artifacts and historical sources pertaining to this period may reveal something more of their origin.

The late 19th and early 20th century occupants of Area G seem to

have been responsible for the large rectangular foundation reported previously. A portion of the foundation appears to overlie, at least partly, one of the sealing tryworks and post molds associated with the wall contain the well-preserved remains of sawn posts, some of which bear traces of what appears to be red paint. Red Bay was established as a permanent settlement by migratory fishermen from Conception Bay, Newfoundland (to which names such as Moores, Pike, Ryan, and Yetman bear witness) during the mid-19th century. The remains of the original settlement can still be seen on the west side of The Basin, and summer dwellings are reputed to have existed around the outer harbour. However, according to local tradition, the community seems to have shifted within a few decades to permanent dwellings around the harbour where the oldest extant structures in Red Bay now stand. Some of these dwellings were apparently located on Saddle Island. Interestingly, this migration now seems to have reversed itself and several new houses are constructed each year in the bottom of The Basin at the expense of older dwellings near the harbour which are being abandoned or torn down at about the same rate. We suspect that the most recent remains at Area G represent a dwelling dating from early in the period during which settlement shifted from The Basin to the outer harbour. Ceramics from this area are now undergoing analysis by Charles Burke, a graduate student in Archaeology at Memorial University, and will form the basis of his M.A. thesis.

Parenthetically, it is worth noting that there are a number of interesting research topics in historical archaeology which could be carried out regarding the migratory fishery and early settlement at Red Bay. How, for instance, does the domestic and other material from home ports in Conception Bay compare with that from the transitory stations which must exist at Red Bay? How do the winter and summer dwellings of the early settlement period differ? How did the construction of the large merchant premises on Penny Island in the latter half of the 19th century affect the community of Red Bay? These and other similar problems seem admirably suited to investigation by historians, geographers, and archaeologists interested in the last 200 years of southern Labrador history and I suspect that some new insights into the social and economic history of the area would result from their completion.

AREA L is the area in which the first indications of a large cemetery were recovered in 1982. These excavations revealed a group of 12 unburied individuals and two deliberate burials. One of the latter was a double burial with the poorly-preserved skeletons extended on their backs, heads to the west. With the aid of Judith Logan of the Canadian Conservation Institute we were able to remove these skeletons using car body filler in place of the traditional plaster of Paris as a medium for the block lift. The other burial, containing an undetermined number of individuals in a variety of burial positions and orientations, proved to be far too complex to remove in 1982. It, as well as the unburied skeletons, was covered with layers of microfoam, polyethylene, and plywood to await the 1983 field season. When we returned in June, 1983 we found that no damage had occurred during the intervening nine months; in fact Burial 1 proved to be encased in a large block of ice which preserved the skeletons perfectly during the winter months.

During the past summer the remainder of the unburied skeletons and the textile surrounding them were successfully removed. During the course of excavation it became apparent that the skeletons were resting directly upon a shallow midden or living floor containing nails, ceramics, refuse bone, and other evidence of a 16th century occupation. Some sort of structure is suggested by the nails and its use as a dwelling is suggested by the domestic refuse deposit which extended several metres in all directions from the human skeletons. The absence of roofing tiles, except for a few fragments, suggests an insubstantial structure, perhaps resting on the ground surface, for no post molds have as yet been recorded. Although lacking any firm evidence upon which to base such a conjecture, it seems possible that the skeletons themselves were abandoned within some type of structure for, with one exception, the skeletons are perfectly articulated and display no evidence of scavenger activity from bears, foxes, smaller mammals and even birds which might be expected to have inflicted some damage upon exposed cadavers.

Despite the complete excavation of the skeletons during 1983 we are no closer to understanding the events which surrounded the abandonment of these individuals, apparently at least partly clothed, than we were at the close of the 1982 season. That they testify to some disaster

seems clear. Whether or not it was one of the overwintering disasters mentioned in several documents from the period (Selma Barkham 1977: personal communication) cannot be stated with any certainty, but it still seems to provide the most reasonable explanation. No trace of violence was found on the skeletons nor is it likely that the cause of death will ever be determined given the poor condition of the bones themselves. Although an overwintering disaster may explain this unusual discovery, several questions remain unanswered. The survivors of whatever took place simply may have been too weak to bury their own dead, thereby accounting for the fact that at least a dozen whalers were never accorded a proper burial. Why they were not buried the following summer when other whalers, or perhaps even a relief party, arrived from Spain remains a mystery. The answer, I suppose, is that this tragic event, whatever it might have been, occurred very near the end of Basque exploitation of the Strait of Belle Isle, and that if there were any survivors they watched in vain for a sail to appear the following spring.

Excavations also proceeded intermittently on Burial 1, the grave partly exposed in 1982 and preserved in ice throughout the following winter. The intermittent nature of the work resulted from one of the wettest summers on record in Red Bay during which the entire excavation was flooded repeatedly and Burial 1 was often completely submerged. Bailing, siphoning, a gasoline pump, and the eventual use of a self-activating bilge pump failed to dry the burial for more than a day at a time. Nevertheless we were able to determine that the grave pit, about two metres in diameter, was a mass grave containing a jumble of skeletons numbering between 9 and 13. Positions range from extended to tightly flexed and all orientations have been recorded. Since the skeletons are literally piled atop one another, since bone preservation is extremely poor, and owing to the inclement weather we were once again unable to complete the excavation of this feature during 1983. Moreover, we are no more able to provide an explanation for this mass burial than we are for the unburied skeletons in Feature 1, although some of the same factors may have been at work.

Excavations were also extended to the area surrounding Feature 1 and Burial 1 by which our speculations about a large cemetery were

borne out. An additional 20 graves were found. Adding these to the two graves previously recorded and Feature 1, we now have a total of 23 "burial" features containing the remains of between 77 and 81 individuals. The average number of individuals per feature stands at something greater than three. In fact double or multiple burials were much more common than single interments. Those for which a reasonably accurate accounting can be made include eight single burials, five double burials, one containing three individuals, five with four individuals, one grave each with six and seven skeletons, as well as Burial 1 having between 9 and 13 individuals, and Feature 1 which proved to contain the remains of 13 individuals.

Artifacts found with the burials were very few in number. They include only a few nails associated with two individuals who were buried in coffins, several small hooks and eyes, apparently from garments, and a series of unusual metal discs which, thus far, defy interpretation. Six of these objects were found associated with as many individuals always on or near the tibia and/or fibula about five to ten centimeters below the knee. The metal from which they are made has been identified at the Canadian Conservation Institute as lead which was apparently cast or hammered into a flat circular or oval sheet ranging in size from that of a quarter to about five by eight centimeters. These were then crudely perforated by punching small holes from one side with a round object, perhaps an awl. In some instances the resulting raised portions on the opposite side were smoothed by pounding or grinding, but in other cases the opposite side was left rough. The perforations do not form any particularly regular patterns but, in most cases, cover most of the surface of the object. In one case textile fragments similar to those from Feature 1 were found adhering to the disc. We are presently unable to provide an explanation as to their function, but they seem to have had something to do with wearing apparel. Whether, however, they served as weights in one corner of a cloak, or were locally produced decorations, perhaps in imitation of some more costly counterparts in use in Spain, or served some other purpose we are unable to say.

Although many of the skeletons were in extremely poor condition, a lens of crushed shell which crosses the burial area was responsible

for the excellent preservation of a number of skeletons. Combining the burial pattern information with preliminary observations upon the skeletons themselves a few preliminary conclusions, or at least suggestions, are possible. Dr. Sonja Jerkic, of Memorial University, who assisted in the excavations, and Brenda Kennedy, a graduate student at the University of Calgary, who will continue the analysis of the skeletal material, provided the field observations. The tentative conclusions are my own and subject to modification pending further excavations and the completion of the osteological analyses.

Preliminary indications are that, insofar as they can be analysed, all of the skeletons are of European males ranging in age from their early 20's to early 40's, and that while they were relatively short in stature, they represent an extremely robust population. The burial population, therefore, seems unrepresentative of the Basques "..of all ages .. some as young as 11 or 12 years .." which Selma Barkham (1978:18) reports could normally be expected to be found among the crewmembers of a whaleship. Adding together the unrepresentative burial population, their robust appearance, and the high frequency of multiple burials, at least two hypotheses can be put forward. The first is that the multiple burials can be accounted for by starvation or deficiency diseases such as those presumably responsible for the deaths of the unburied individuals who comprise Feature 1. If this were the case, however, I would expect that both older and younger individuals would be represented which, so far, is not the case. Also, diseases such as scurvy and other deficiency diseases should leave evidence on the skeletons and this does not appear to be the case, at least from the preliminary analysis. The second hypothesis, and the one which presently seems best to fit the available information, is that the skeletons we have exposed to date represent the crewmembers of whaleboats who drowned or were killed in the dangerous business of harpooning and killing whales. This would account not only for the multiple burials -- several boat crew members or even entire crews having been killed when their boat overturned -- but it also accounts for the restricted age range and robust nature of the skeletons. If, as seems to be the case, harpooners and boat crews were among the better paid members of a whaling expedition, it stands to reason that the men

best able to obtain these positions might well have been of approximately the ages of those found on Saddle Island and that they were selected on the basis of their physical prowess -- of which the skeletons also display ample evidence. As a final note, it seems that the boat crews who shared richly in the profits from a successful whaling voyage to southern Labrador and who probably competed vigorously for their positions, were also subject to the enormous risks of hunting whales, a fact to which the cemetery on Saddle Island bears dramatic witness.

TWIN ISLAND, the small island south and east of Saddle Island, was also the scene of several excavations during the 1983 field season. Excavations were begun there when Ralph Pastore and Reginald Auger (this volume) conducted excavations at several small structures, some of which apparently pertain to recent Inuit occupations. At two locations, however, earlier European material was found, some of it closely resembling 16th century material found on Saddle Island. At the close of the past summer's excavations a small rectangular structure had been exposed, a stratified refuse deposit near a whalebone tent ring almost completely excavated, and a pond adjacent to the latter structure drained, tested, and refilled.

At Twin Island-1 (EkBc-5) a small rectangular structure utilizing a near vertical bedrock outcrop for one wall was completely exposed. The bedrock runs roughly NNE by SSW and the structure extends approximately 6.5 m from the rock face. The other dimension is approximately 8.0 m. It is comprised of large rocks and small boulders with post molds in the corners. At the southeast corner, adjacent to the rock face, a gap in the foundation and a pair of post molds approximately one metre apart appear to define a doorway. A portion of the wall opposite the natural rock represents a double wall with the intervening gap filled with fine beach gravel and shell. Several large whale vertebrae and ribs were found immediately outside the walls and appear to have been used in the construction of the structure. Traces of wood, either wall beams or roof supports, parallel two of the walls, and other fragments of degraded wood were found elsewhere in the structure. The remains of a fireplace composed of large rectangular blocks of flat stone mortared with grey clay similar to that used in the tryworks and more recent sealing ovens are apparent on the rock outcrop. Although this is the

best defined structure we have thus far exposed at Red Bay, its age and function remain somewhat uncertain. The nails which apparently fastened whatever frame was constructed there are identical, at least upon superficial inspection, to those from 16th century structures on Saddle Island. A single sherd of grey stoneware, identified by Gerard Gossett of Parks Canada as "Normandy stoneware" is also identical to sherds from three Basque structures on Saddle Island. The use of whalebone and these few artifacts therefore suggest a 16th century origin for the Twin Island-1 site. However, the excavation of the collapsed fireplace revealed three fragments of a kaolin smoking pipe with a small bore diameter characteristic of a much later period. While these are beneath the rubble and clay from the collapsed fireplace and could conceivably have been deposited some time after a 16th century structure was abandoned, they are sufficient evidence to question the suggested 16th century origin of the structure. Wood charcoal samples obtained from the fireplace and wood from the structure itself will be submitted for radiocarbon analysis with the hope that they will clarify this confusing picture.

Twin Island-3 consists of a whalebone tent ring, an associated midden, and a pond containing large amounts of organic refuse. Pastore and Auger (this volume) tested both the tent ring and midden area where they recovered material dating both from the 16th century and some later period. More extensive excavations in the midden area revealed a stratified deposit containing two culture layers. The uppermost produced European material and a small soapstone pendant with a drilled hole which probably pertain to a late 18th century Inuit occupation of the site. Most likely the whalebone tent ring was also constructed by these people. Beneath this more recent material, however, was a layer of wood chips and fragments, baleen, and occasional artifacts which are identical to those from 16th century deposits elsewhere. The wood chips are largely of local softwoods and suggest that some construction activities took place there in the 16th century. Although additional excavations will be necessary to confirm it, we believe that the tent ring may be superimposed upon an older Basque structure. Hopefully, these excavations will take place during the summer of 1984.

The pond located a few metres from the Inuit tent ring and the

suspected Basque structure was drained during the latter part of the summer; the material collected from the surface of a deep deposit of silt on the pond bottom suggests that our hypothesis regarding a Basque structure nearby is probably correct. In addition to more than a dozen whale vertebrae, at least six whale ribs, and a large number of wood fragments, three artifacts from the sixteenth century were recovered. They include: the side of a reel about 30 cm long, made from oak and identical to others from Saddle Island; three fragments of a turned bowl made from beech and very much like those recovered by Parks Canada divers from the San Juan (cf. Ringer 1983:90, figure 6); and an unusual curved hardwood artifact mortised at one end which contains an iron screw. It has not yet been identified but appears as if it might have been the handle of some weapon. We believe that the deep oxygen-free silt in the bottom of this pond has preserved a wealth of 16th century (and probably later Inuit) material and plan a major excavation during 1984 using siphons to remove the silt and pumps to provide a balanced inflow of clean water.

This technique was used effectively during the summer of 1983, although on a much smaller scale, on several small ponds on Saddle Island. In these were preserved wood, leather, feathers, bone, lead, iron, ceramics and other materials dating from both the 16th and 19th centuries. While designed primarily to devise suitable techniques for excavating such waterlogged sites, these limited excavations produced a large number of artifacts, most of them in a remarkably good state of preservation. The quality and quantity of material from these small ponds and the discovery of what appear to be even richer deposits on both Twin and Saddle Islands promise to provide a sample of material culture from the 16th century which we can presently only imagine.

REFERENCES

BARKHAM, Selma
1978 The Basques: filling a gap in our history between Cartier and Champlain. Canadian Geographical Journal, vol. 96,no. 1, pp. 8-19. Ottawa.

RINGER, R. James
1983 Progress report on the marine excavation of the Basque whaling vessel San Juan (1565): a summary of the 1982 field season. Archaeology in Newfoundland and Labrador 1982, J.Sproull Thomson and C. Thomson eds., Annual Report 3:76-94, Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

TUCK, James A.
1983 Excavations at Red Bay, Labrador - 1982. Archaeology in Newfoundland and Labrador 1982, J.Sproull Thomson and C. Thomson eds., Annual Report 3:95-117, Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

TUCK, James A. and Robert GRENIER
1981 A 16th century Basque whaling station in Labrador. Scientific American, vol. 145, no. 5, pp. 180-190. New York.

A SUMMARY OF FOUR CONTRACT ARCHAEOLOGY PROJECTS IN NEWFOUNDLAND AND LABRADOR

J. Callum Thomson
Labrador Environmental Services

During 1983, this consultant completed four contracts involving archaeological research in the province. Of these, three have not been released yet by the Department of Environment and therefore will receive only cursory treatment here; the other has been accepted by the proponent and is summarized below.

HISTORIC RESOURCES EVALUATION OF THE PROPOSED ROAD CORRIDOR FROM WABUSH TO ROSS BAY, LABRADOR. PREPARED FOR THE DEPARTMENT OF TRANSPORTATION, GOVERNMENT OF NEWFOUNDLAND AND LABRADOR.

The proposed highway route between Labrador City/Wabush and Ross Bay, Labrador was surveyed and assessed for its historic resources potential and for the expected level of impact upon these resources by the development (Thomson 1983a). The 64 km-long section of highway is part of the planned Trans-Labrador Highway which will eventually connect the Quebec route between Montreal and Fermont with the Atlantic coast towns of Happy Valley/Goose Bay. The section under study was exempted from the full environmental impact assessment process providing that historic resources, wildlife and fisheries impacts were examined.

In order to assess the historic resources potential of the proposed highway route, three days were spent flying and walking the survey line, shores of adjacent bodies of water, eskers and other features of interest, and interviewing informants. The total of known sites within the development area amounted to one prehistoric site in the Wabush region, recently obliterated by mining activities, two historic period Indian camp sites containing an insignificant amount of cultural information, and one currently occupied Innu fishing camp. Material collected included two fragments of small mammal bone; material recorded but not collected amounted to one ground and polished prehistoric stone tool; features

observed number two wood tent frames, one with an associated cobble hearth, five single-family tent rings and eight stone ring hearths; contemporary native sites recorded consisted of one ethnographically interesting hunting/fishing camp comprising two dwellings and several related hide and food preparation areas.

Assuming that this represents the entire site inventory for the proposed highway route, it would seem to conform with the opinions and findings of informants, ethnographers, explorers and archaeologists, and with local assessments of game populations, that prehistoric and historic native occupation of this part of the interior was light and sporadic. Probable reasons include the undependable and easily-exhausted game supply and the absence within the development area of access routes between the interior and the coast.

In view of the insignificant nature of the findings, the proponent was advised that no further investigation need be carried out at the two historic sites and that no avoidance or other mitigative procedures be employed; that the contemporary fishing camp is in no danger of direct impact and requires no management proposal; and that the single prehistoric site has already been destroyed by development. As this report has not yet been released, no further details will be presented in this publication.

INITIAL ENVIRONMENTAL EVALUATION OF THE ST. JOHN'S AIRPORT DEVELOPMENT PROJECT. PREPARED FOR TRANSPORT CANADA.

An initial environmental evaluation was commissioned by Transport Canada in advance of proposed future development of facilities and services at St. John's Airport. The study reported upon here was conducted under subcontract to CBCL Limited, St. John's, and documents the potential for disturbance of historical and archaeological resources within the area (Thomson 1983b).

Research into archival, literature and informant sources revealed that although historic sites are numerous around St. John's and a few prehistoric sites are scattered about the eastern coast of the Avalon Peninsula, none are known to exist within the present or proposed boundaries of the airport. However, sufficient evidence was collected to warrant

either monitoring of any development which disturbs intact segments of the property or extensive subsurface testing prior to development. While no risk is envisaged to known historic sites in the region or historically significant buildings in the vicinity of the airport, an extensively-used military road and several 18th century military batteries are known to have been constructed close to the present eastern boundary of the airport. It was recommended that these be identified through archival and field research.

In sum, the airport region seems on the surface not to be rich in historic resources but is close enough to known historic and prehistoric sites for further investigation to be warranted. This report has been accepted by the proponent but not yet released by the Department of Environment, so no further details will be given here.

PREPARATION OF THE TERMS OF REFERENCE FOR AN ENVIRONMENTAL IMPACT ASSESSMENT OF THE PROPOSED TOTE ROAD BETWEEN ROSS BAY AND TWIN FALLS, LABRADOR. IN PREPARATION FOR THE DEPARTMENT OF TRANSPORTATION, GOVERNMENT OF NEWFOUNDLAND AND LABRADOR.

This contract was granted to Labrador Environmental Services by the Provincial Department of Transportation in October, 1983. We have been asked to draw up the Terms of Reference which will govern the conduct of a full environmental impact assessment of the proposed section of the tote road between Ross Bay and Twin Falls, Labrador. Our responsibility includes contacting all Government agencies, private businesses and citizen groups who might have concerns about the environment, historical resources, business, industrial and recreational opportunities, socio-economic values or any other aspect of life in Labrador which will be altered by construction of the road and the eventual links it will provide with Montreal and Goose Bay (Labrador Environmental Services n.d.).

These concerns will be itemized within the Terms of Reference, which will also include a description of the project and the geographic setting, an outline of the proponent's commitment to study the concerns and provide appropriate mitigation procedures, and a presentation of the study methodology to be employed by the proponent or its consultants.

Once accepted by the Department of Transportation, this document will be submitted to the Department of Environment for review prior to commencement of the Environmental Impact Assessment process in 1984.

PROPOSAL FOR MANAGEMENT OF THE DORSET ESKIMO SOAPSTONE QUARRY AT FLEUR DE LYS, WHITE BAY, NEWFOUNDLAND. PREPARED FOR THE HISTORIC RESOURCES DIVISION, DEPARTMENT OF CULTURE, RECREATION AND YOUTH, GOVERNMENT OF NEWFOUNDLAND AND LABRADOR.

Introduction

Based on research and fieldwork conducted in 1983, this report summarizes a full account to the Historic Resources Division (Thomson 1983c) of the Dorset Eskimo soapstone quarry at Fleur de Lys, northern Baie Verte Peninsula (Figure 1), its present and past significance, the extent of all known worked outcrops and their state of preservation, and presents a plan for management of the proposed Provincial Historic Site. A photographic and ground survey of the Fleur de Lys area was conducted in October, 1983, in order that:

a. previously unrecorded outcrops of aboriginally-worked soapstone be located and documented;

b. the present level of vandalism, natural erosion and other forms of destruction of the quarry be established, recorded and compared with previous levels, and measures proposed to combat this loss;

c. pedestrian access to the main part of the quarry be planned;

d. a programme of archaeological research at the site and in the near vicinity be suggested;

e. a land surveyor be guided around the quarry preparatory to the production of an areal survey for site declaration purposes;

f. information regarding the potential for development of the quarry as a Provincial Historic Site be gathered and assessed.

The soapstone quarry was utilized by Dorset Eskimos over a period of several hundred years during the last millennium B.C. and/or the first millennium A.D. Unlike members of the Indian cultures who preceded and followed Dorset occupation of the Island and who cooked over open wood fires, the Dorset depended upon soapstone for manufacture of cooking

pots, bowls and seal oil lamps. Thousands of blocks of the stone (preforms) were extracted from cliff and boulder faces for this purpose and scars from the removal of the preforms are plainly visible on soapstone outcrops around the town of Fleur de Lys. While most localities have survived much as they were left by the Dorset, some more visible and accessible groups of workings have attracted many generations of graffiti artists and other more malicious vandals. This damage, in combination with natural erosion and indiscriminate development, is rapidly destroying and defacing parts of this unique and highly significant historic resource. The report recommends that immediate attention should be paid to eliminating vandalism and combating erosion at the site, increasing scientific knowledge of prehistoric exploitation of the quarry and associated trading practises and habitation patterns, and presenting this information in a manner attractive to and understandable to the public.

Fleur de Lys soapstone quarry

The main part of the quarry, consisting of several discrete loci or groups of removal scars, is situated near the east end of the town of Fleur de Lys, on the northern tip of the Baie Verte Peninsula. A secondary worked outcrop is located at the southwest extremity of town. All loci are similar in that they display evidence of having been horizontally mined of blocks of soapstone; these blocks, or preforms, were ultimately destined to be reduced to cooking pots, bowls and shallow lamps fuelled by seal oil. Dorset quarrying activity probably spanned a period of several hundred years, judging by the investment of time which must have been involved in the removal of the large number of preforms from the site, leaving a phenomenon known locally as "the Indian carvings". These are actually cliff and boulder faces displaying rectangular, circular and oval scars where the preforms had been removed successfully, and circumscribed protrusions where removal had been aborted because of an unseen flaw in the rock. The foot of these faces is littered to a depth of several metres with debris from the removal of preforms, discarded hard stone quarrying tools, naturally eroding bedrock and accumulated soil. Some of the undercut cliff faces may have had three or four layers of blocks removed as the quarrying occasionally extends

1.5 m; excavation at the base of the cliff in one locality revealed scars as deep as 1.5 m and carvings are reported to be as deep as 2.5 m below the surface on a nearby outcrop which forms one wall of a well. Thus it is clear that the more than 500 visible scars, sometimes rising to a height of more than 3.5 m above present ground level, account for only a fraction of the vessel preforms removed from this quarry.

While this site is thought to be unique in the province and, by virtue of its size and generally good state of preservation, highly significant as a source of information on prehistoric technology, little scientific research has been conducted to delimit its size, to date its periods of exploitation, to discover the areal and temporal boundaries of export of its product, or to investigate the technological activities involved in soapstone extraction and reduction. It receives brief mention in publications dating back to the late 19th century (Lloyd 1875; Howley 1915; Jenness 1932; Wintemberg 1940; Linnemae 1975; LeBlanc and Carignan n.d.), but not until 1981 did research apparently exceed casual gathering of surface specimens and photography. In 1981, Christopher Nagle spent two weeks at the site excavating at the base of the main cliff, measuring removal scars and preforms still attached to the bedrock, and taking geological samples, from which he prepared a preliminary report on the technology involved in removal of the preforms (Nagle 1982).

Based on information accumulated from these sources, from personal observations at the site over a period of two years, and from local interviews, it appears likely that the Fleur de Lys soapstone quarry was utilized exclusively by Dorset Eskimos. However, until more extensive investigation is carried out, the possibility that this site was also known to Maritime Archaic Indians as a source of soapstone for plummets and amulets prior to the Dorset arrival on the Island should not be ruled out. No evidence exists to support Howley (1915) and Lloyd's (1875) contention that Beothuk Indians used soapstone for lamps and cooking vessels or that they visited the site as Howley maintains. Similarly, apart from some now faint French names inscribed in the rock face, it is doubtful whether as reported by some local informants, the French seasonal settlers were responsible for any of "the carvings".

Exclusive and lengthy Dorset utilization of the quarry is supported

by considerable evidence, including the extensive number of preforms removed, preform morphology, the use of uniform technology in the extraction process (Nagle 1982), and the inventory of artifacts collected from the site including chert blades, possible burin-like-tool fragments and a soapstone vessel (described below). Dating of the period of exploitation is not yet possible because of the lack of chemically dateable material such as charcoal in the quarry site. Added to this problem is the lack of known habitation sites at Fleur de Lys, the absence or unavailability of finished vessels or vessel fragments which could be dated typologically, and the dearth of associated diagnostic tools. Excavation at the site, return to the province of the vessel found at the site, and recovery of the LeBlanc/Carignan collection would help solve this problem. An estimate for exploitation in the early centuries of the first millennium A.D. was provided by Linnemae from comparison of soapstone from Fleur de Lys and the dated site at Sop's Island (Linnamae 1975: 72, 207-208). This seems to be supported by the limited information available on the lithic tools collected by LeBlanc and Carignan (n.d.).

The Fleur de Lys cove may have been well suited for aboriginal habitation as well as soapstone procurement. The present environment offers a safe boat approach and sheltered beaches, encircling hills to deflect winds, a southeastward facing aspect for maximum winter sun, fresh water, abundant hard- and soft-wood and plentiful game. Seals abound in the bay and on offshore ice from November until May, salmon and cod fishing is reputedly the finest on this part of the coast, sea fowl, partridge and several kinds of berries are available in large numbers, and caribou now only occasionally seen were certainly much more numerous in former times. Surveys have not yet encountered the remains of habitation structures, middens, soapstone reduction stations, or other evidence which would prove that the Dorset spent more time here than was required for soapstone preform extraction. However, the discovery of some lithic tools unrelated to soapstone quarrying, a finished vessel and the reported wealth of contemporary faunal and other food resources indicate the need for further investigation to document the extent and nature of Dorset and other prehistoric occupation of the Bay.

The quarrying process seems to have been consistent in all five known loci, and has been well documented for Localities 1 and 2 by Nagle (1982: 116-118). In summary, the shape of the scars and the still-attached aborted preforms ranges from rectangular through sub-rectangular to oval and round , and most preforms vary between 20-25 cm in width and 25-30 cm in length. Exceptions to this range include several oversize scars and a few miniature incised rounded scars and preforms close to ground level on boulders and outcrops. Nagle speculates that the latter were probably the work of children imitating their elders.

Preforms - large blocks of soapstone several centimetres thick - were formed on the rock face by a process of scraping a depression around the required block with a hard, hand-held, crudely sharpened stone tool. Removal of the prepared block then entailed levering or striking from an open side often made accessible through prior removal of an adjacent preform. The plentiful hammerstones found at the site (cf. Linnemae 1975: 208) may have played some part in this final process, while others have been more recently used by visitors intent on defacing the site with their initials. Any organic materials used by the Dorset for levers, such as wood, ivory and antler, would have disintegrated long ago. Most preforms, once detached, were probably transported to their place of trade and/or use before being gouged out into vessels. The substantial weight of even one preform suggests that winter transportation by sled over snow and ice might have been easier than summer movement by boat (assuming that the Newfoundland Dorset possessed either or both sleds and water craft). The hypothesis of winter exploitation of the site might also be supported by the abundance of seals here in this season, and the ready availability of snow which might have drifted to form a natural platform from which to reach those scars located at least twice man's height above the present ground level. If this hypothesis is correct we might expect to find evidence of substantial winter dwellings within commuting distance of the quarry.

Quarry loci

Locality 1. Localities 1 and 2, two of the major loci at the quarry have been described previously by Nagle (1982:106-113). Locality 1

is the most obvious, largest grouping, partially illustrated by Howley (1915: Plate XXXII), Jenness (1932:231), Wintemberg (1940: Plate XV(1)), and Linnamae (1975: Plate 12d), best known to local residents, and recipient of most of the vandalism at the site. Removal scars are intermittently grouped along 180 m of cliff face, bedrock outcrops and boulders commencing near the highway and disappearing into the hillside. Clustering of scars and avoidance of intermediate areas probably reflects preference for the quality and constituent elements contained in these discrete locations, the relative ease of access to new preform blocks created by the prior removal of an adjacent block and (sheer speculation) individual, family or band boundaries. Excavation at the base of the cliff in 1981 revealed that scars extend well below present ground surface and are now hidden by natural debris and tailings from preform removal operations. Some 350 removal scars and preforms are visible at this locality.

The group of workings closest to the road has received the greatest amount of damage in recent years - initials carved or pecked into the face of the outcrop - because of its low, exposed, relatively smooth, accessible surface. Several new sets of initials 20-30 cm high were savagely pecked into the rock face during 1983; damage to the rest of this locality has been confined largely to flat slabs which have fallen off the cliff face. This graffiti includes intricate depictions of sailing ships bearing some similarity to Micmac petroglyphs on the Medway River, Nova Scotia, examined by Brian Molyneaux (1983), which may indicate the antiquity of and multi-cultural proclivity towards graffiti-writing, as well as myriad initials, dates and names. Damage to the pot scars and preforms is less visible and has been limited to pecking at protrusions with hammerstones.

Locality 2. Nagle's Locality 2 is located 1 km west of Locality 1, at the head of a small, sheltered cove. Eleven large boulders at the water's edge contain approximately fifty scars and preforms, some of which are now submerged at high tide. Their resistance to ice and water erosion is testament to the hardness of the soapstone in this area. Despite, or perhaps because of the presence of several houses around this bay, no trace of vandalism is evident. No Dorset or other archaeological material has been found in building or gardening operations

in the vicinity.

Locality 3. Locality 3 is situated at the east end of town, 250 km from Locality 1. Approximately 50 scars are visible above the present ground surface, which has been raised considerably in recent decades by gardening activities and construction of a root cellar against the outcrop, as well as by natural accumulation of soil and vegetation. It is probable that many more removal scars and preforms are hidden below than are visible above ground. No lithic tools or debitage were seen in a quick survey of the garden. Other reported groups of workings at this locality are now covered by thick undergrowth and backfill from a gravel quarrying attempt by the local road crew.

Several outcrops of soapstone occur on the valley floor between Locality 1 and 3; all are badly eroded because of their unsheltered position, lack of protective vegetation, and proximity to several households of children. No scars or preforms were seen, although some may lie hidden beneath extensive talus slopes.

Locality 4. Locality 4 occupies another small cove, about 400 m east of Locality 2. A local informant told me that as a child he had played among "the carvings", scraping the bedrock to obtain powder for warpaint. He remembered that a dozen or so more scars used to be present than are now visible; apparently a higher sea level or the action of ice and waves have removed the workings or the boulders upon which they were situated. There are now seven scars remaining, one on a large boulder in the sea, the others on boulders or cliff fces above the beach. The scars are generally shallow and smaller than those at other localities, and always well isolated from each other, giving the impression that this was a test location abandoned when superior quality soapstone was subsequently discovered.

During basement excavation operations several years ago at a house near Locality 4, a small complete soapstone vessel was discovered. Descriptions range between oval and rectangular, so that assessment of function and temporal placement are impossible until it is returned to the province from Ontario, where it now resides. This is the only complete, finished soapstone vessel known from Fleur de Lys.

Locality 5. Prior to the cutting of the new road through the soapstone outcrop which continues southwest from Locality 1, several scars and preforms were known to exist north of Locality 4. Most were destroyed by blasting during the road cutting work; only one is now visible, on the north side of the cut.

In summary, five discrete locations are now known to have been utilized for soapstone preform extraction in the Fleur de Lys area. Each shows evidence of similar technological methodology in the extraction process, morphology of the resultant scars and preform fragments exhibits basic homogeneity, and the small number of diagnostic artifacts (although unseen by the author) seem to derive from the same cultural tradition, namely the Dorset culture. Accumulation of quarrying debitage, including scrapers, hammerstones and soapstone waste, naturally eroding bedrock, windblown and waterborne soil, and vegetation has created an overburden in places exceeding two metres in depth. While over 500 scars and vessel preforms are currently known and visible on the rock faces, those below ground and the multiple rows removed from what are now caves and overhangs potentially increase the real number of vessel preforms quarried to many times this number. In addition, it is probable that other groups have not yet been located and still others may have been destroyed by past human activities and naturally occurring events. Vandalism consisting of hammering of projecting preforms, indiscriminate pecking of the rock face and, most pervasive and visible, scratching or pecking of names and initials and pictorial images into flat surfaces has been confined mostly to Locality 1, but has seen considerable increase in the two years since the most recent wave of scientific interest began at the site. It is vital that measures be implemented to prevent this destruction of a unique historic resource.

Site management

Recent scientific investigation, a resurgence in local interest, and the temporarily depressed regional economy, which has sharpened the entrepreneurial instincts of a segment of the local population, require that some form of management programme be implemented at the Fleur de Lys soapstone quarry to preserve the site, provide employment

and create a tourist attraction. The extensive size of the site, which stretches over at least one kilometre, and the long-established nature of the town which surrounds the quarry, obviously preclude development of the whole site and possibly dictate against declaration of all loci within a Provincial Historic Site. The vulnerability of the worked outcrops to vandalism and weathering demands some form of physical preservation to augment the Act protecting this and all archaeological sites; concomitantly, the uniqueness of the site merits continuing archaeological study and accessibility by interested members of the public. The Fleur de Lys soapstone quarry, which seems to have withstood most natural impacts for approximately two thousand years, is suddenly being assailed on several fronts to such a degree that it requires immediate and continuing protection measures which will safeguard its future, permit accessibility of a legitimate nature, prevent damage by vandals and innocent pedestrian traffic, halt attrition by development and undue levels of natural erosion, and perhaps be instrumental in boosting the region's economy through increased tourist activity.

Conclusion

A survey of the Fleur de Lys area and of local informants gathered information on five discrete outcrops which had been worked by Dorset Eskimos, an increase of three from the previously recorded total of known localities. It can be expected that other minor locations lie undetected beneath brush cover and in uninhabited locations in the vicinity of town. Groups of scars and preforms were recorded and photographed, and the amount of graffiti and other vandalistic abuse noted.

Three access routes from the main road to Locality 1 were proposed and one identified as the most suitable. Suggestions were made as to the appropriateness of each soapstone working locality for development, burial or other treatment. It was proposed that at some time in the future a museum be planned which would be close to the main outcrop and would house some representative Dorset artifacts and educational panels. Two locations were suggested.

The land surveyor was guided around the quarry site and plans for development discussed. Future archaeological research directions were

suggested to increase knowledge of exploitation of the quarry, discover the extent of other Dorset use of the site, and document the distribution, nature and density of Dorset and other sites on the Baie Verte Peninsula and vicinity. Information from this programme would be used in the preparation of a research report, didactic panels and public pamphlets. Recommendations were presented for dealing with the problem of vandalism at the site and preserving the resource, while encouraging increased visitation. Interviews elicited the general feeling that some form of development of the quarry would be welcomed; ideas range from a simple picnic area and interpretive panels at the site to a trailer park and museum. Certainly some form of management plan must be adopted immediately to save this site from continuing abuse (cf. Thomson 1983c).

Acknowledgements

Several people should be thanked for contributing to the findings described above: Christopher Nagle for first introducing me to the Fleur de Lys quarry and unveiling its technological mysteries, and Oscar and Terri Bouttel, Steve Walsh, Tom Shelley and family, the Quigleys, and the Silvey family for sharing local knowledge. More detailed information can be found in the full report on file at the Historic Resources Division, Newfoundland Museum, St. John's (Thomson 1983c).

REFERENCES

HOWLEY, James P.
1915 The Beothucks or Red Indians. Cambridge University Press.

JENNESS, Diamond
1932 The Indians of Canada. National Museum of Canada Bulletin 65, Anthropological Series 15, Ottawa.

LABRADOR ENVIRONMENTAL SERVICES
n.d. The Terms of Reference for an Environmental Impact Assessment of the proposed tote road between Ross Bay and Twin Falls, Labrador, for the Department of Transportation, Government of Newfoundland and Labrador. In preparation.

LEBLANC, Ray and Paul CARIGNAN
n.d. Computer list of 37 artifacts collected at the Fleur de Lys site in 1969, on file at the Historic Resources Division, Newfoundland Museum, St. John's.

LINNAMAE, Urve
1975 The Dorset Culture: A Comparative Study in Newfoundland and the Arctic. Technical papers of the Newfoundland Museum 1. St. John's.

LLOYD, T.G.B.
1875 A further account of the Beothucks of Newfoundland. Journal of the Anthropological Institute of Great Britain and Ireland 5:22-230.

MOLYNEAUX, Brian
1983 Petroglyphs portray Micmac life. Interview reported in the Globe and Mail, November 21, 1983.

NAGLE, Christopher
1982 1981 field investigations at the Fleur de Lys soapstone quarry, Baie Verte, Newfoundland. Archaeology in Newfoundland and Labrador 1981. J. Sproull Thomson and Callum Thomson editors, Annual Report 2:102-129. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

THOMSON, J. Callum
1983a Historical Resources Evaluation of the proposed road corridor between Wabush and Ross Bay, Labrador, for the Department of Transportation, Government of Newfoundland and Labrador.

1983b Initial Environmental Evaluation of the St. John's Airport Development Project, for Transport Canada, with CBCL Limited.

1983c Proposal for management of the Dorset Eskimo soapstone quarry at Fleur de Lys, White Bay, Labrador, for the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador.

WINTEMBERG, W.J.
1940 Eskimo sites of the Dorset culture in Newfoundland, Part II. American Antiquity 4:309-333.

Figure 1

Baie Verte Peninsula

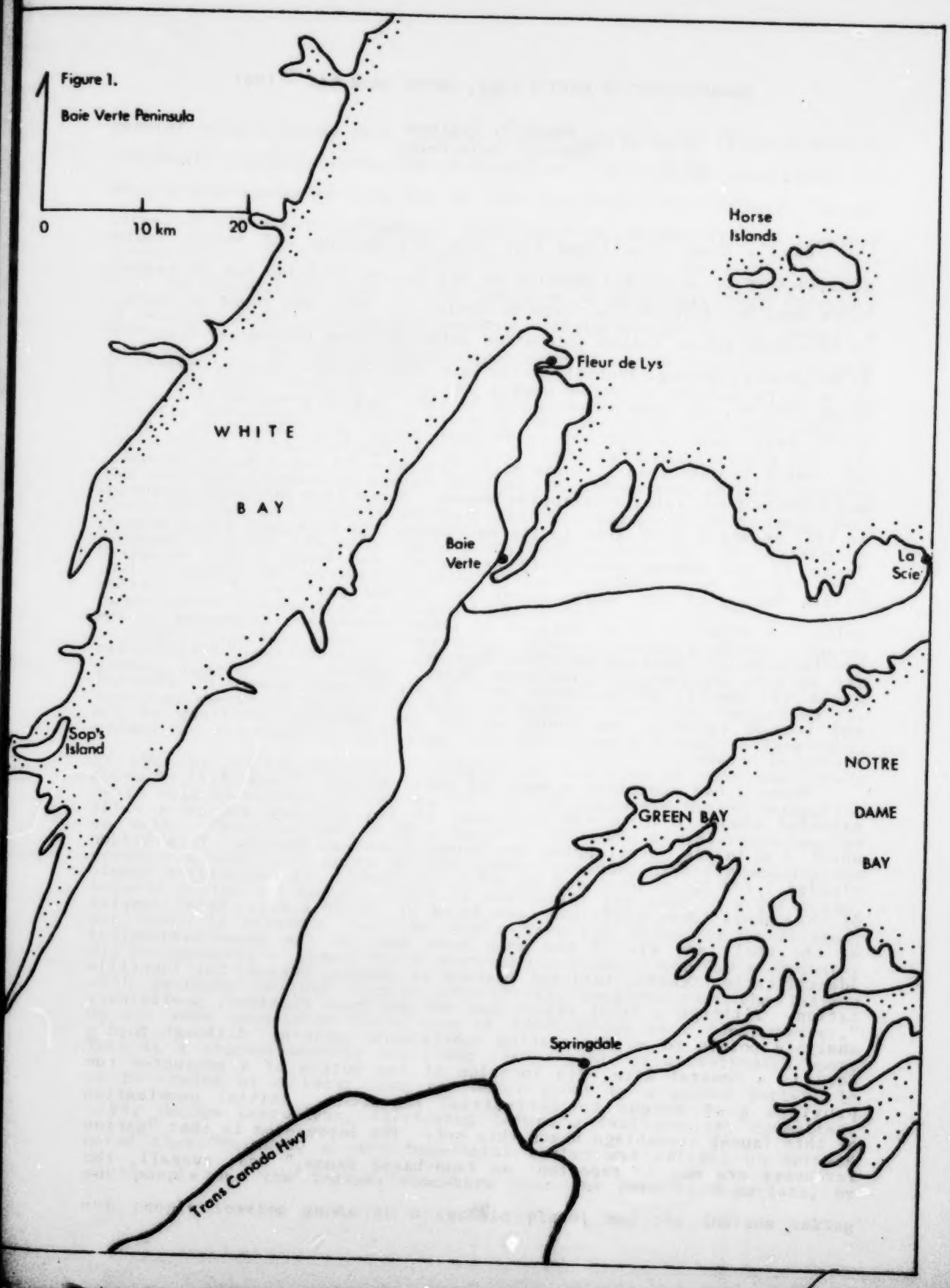


Figure 1.
Baie Verte Peninsula
0
10 km
20
Horse
Islands
Fleur de Lys
WHITE
BAY
Baie
Verte
La
Scie
Sop's
Island
NOTRE
DAME
BAY
GREEN BAY
Springdale
Trans Canada Hwy

EXCAVATIONS AT BOYD'S COVE, NOTRE DAME BAY - 1983

Ralph T. Pastore
Memorial University

Boyd's Cove is a large (ca. 2100 m^2) Beothuk and Recent Indian site located on a glacial moraine at the bottom of Dildo Run in eastern Notre Dame Bay (Figure 1). Area A, tested in 1982, was found to contain an extensive Recent Indian occupation which had been thoroughly disturbed by European gardening, probably in the late 19th century. Area B, comprising about 1760 m^2, was also investigated in 1982, and it revealed 11 features which have been interpreted as Beothuk house pits (Figure 2). There may indeed be more than 11 house pits; features H-4 and H-8, for example, may represent multiple, overlapping houses. House 1 was partially excavated in 1982 as was a 10 m^2 area to the northeast. In this past field season, House 11 was almost completely excavated, and House 3 was excavated to the bottom of its living floor and to the surfaces of its earthen walls. A total of 47 m^2 outside of these houses was excavated to the sterile subsoil. Only one important feature, a concentration of fire-cracked rocks (Plate 5), which lacked both a significant amount of charcoal and burned subsoil, was found outside the immediate environs of the excavated houses.

House 1 had contained a bone and shell midden of some 8.25 m^2 which extended almost 2 m to the northeast of its entrance and to a point about 2 m inside, overlapping the house's central hearth. This midden yielded 1.743 kg of bone and 12.093 kg of shell. (A radiocarbon sample of this shell (Beta 6729) has been dated at 270±70 B.P.). Other samples of the shell and all of the bone were sent to the Zooarchaeological Identification Centre, National Museums of Canada, Ottawa, for identification. Although a final report has not yet been received, preliminary analysis points to an interesting subsistence pattern. Although Boyd's Cove is a coastal site, its location at the bottom of a protected run provides good access to terrestrial resources. Initial examination of this faunal assemblage bears this out. The impression is that "marine resources are not as important as land-based fauna," and, overall, the

general pattern is one of a "diverse subsistence pattern" (Stephen Cumbaa, personal communication). In this regard, the Beothuk inhabitants of Boyd's Cove appear to have had the same preference for sheltered "inner" sites as did their prehistoric ancestors, the Recent Indians (Pastore 1982).

The faunal collection also contains a relatively high frequency of beaver, otter, and marten remains. While beaver is, of course, a food animal, otter and marten are much more likely to have been procured for their furs. Interestingly, at Wigwam Brook, a Beothuk site on the Exploits River which probably dates to the late 18th/early 19th century, beaver bones were only 0.63% of the total mammalian bones (Stewart 1973:4). The very small number of beavers in that collection may, in part, reflect the fact that it is highly unlikely that the Wigwam Brook Beothuks were engaged in a fur trade on the eve of their extinction. The relatively high frequency of fur-bearing animals also fits well with the 377 trade beads so far recovered from Houses 1 and 3.

Other species, namely eider duck, oldsquaw, black guillemot, Canada goose, common loon, double-crested cormorant, jaeger, as well as the American smelt and polar bear remains suggest that the creators of the midden had occupied the site from late winter/early spring to late fall. If the fur-bearing animals were taken at the time of year when their pelts were at maximum thickness, this would indicate a winter occupation as well. There is real doubt, however, if such an inference may be drawn. Selection of pelts in this manner presumes direct communication between trader and hunter. This is ordinarily the case in a fur trade, but there is evidence that the Boyd's Cove fur trade, if it existed, did not resemble a typical North American fur trade. John Guy's encounter with Beothuks in 1612 (Howley 1915:15-18), suggests that the Indians he met were accustomed to a form of trade known as a "dumb barter." This is a process whereby one group leaves goods at a designated spot, to be traded at a later time for other goods by a second party. In 1793, George Cartwright, testifying before a Parliamentary committee, noted that "formerly a very beneficial barter was carried on between our people and the Indians somewhere near the port of Bonavista, by our people leaving goods at a certain place, and the Indians taking

what they wanted and leaving furs in return..." (Howley 1915:50-51).

If the posited European-Beothuk fur trade took this form, the buyers' notions of what constituted a prime pelt might have been difficult to communicate. Such a fur trade would, of necessity, have been rather marginal, and the Boyd's Cove assemblage reinforces this hypothesis. The Boyd's Cove collection differs markedly from those recovered from mainland sites where aboriginal occupants carried on a fur trade. Boyd's Cove, for example, lacks evidence for the trade axes, bells, mirrors, trade blankets, and the like which one would expect to find. In its present configuration, the Boyd's Cove assemblage strongly indicates an aboriginal group which carried on a very marginal fur trade and obtained the majority of its European articles by stealing from abandoned fishing premises. For example, forged nails represent 605 of the 871 metal objects so far recovered from Boyd's Cove. Of these nails, at least 99 were aboriginally modified. Other metal objects include:

strip iron pieces	26
knife blade fragments	15
cast iron pot fragments	11
fish hooks	11
projectile points (apparently made from nails)	7
rod iron	5
possible hinge fragments	2
brass or copper kettle fragments	2
brass or copper fragments	2
adze	1
trap base	1
lead shot	1
iron button fragment	1
unidentified iron objects	181
TOTAL	871

Other European articles recovered from a Beothuk context are:

pipestems	9
beads (made from pipestems)	8
ceramics (Normandy stoneware)	16
glass fragments	21
trade beads (Kidd IIa12 & IIa56)	377

The relatively high frequency of nails to other metal objects contrasts strongly with the Wigwam Brook collection. There, nails formed only 32.5% of the metal objects. This would be consistent with the much later date of that site's occupation. By that time, the English migratory fishery had been largely abandoned for a sedentary one which would have greatly decreased the opportunities for stealing from seasonally-abandoned fishing stations. In addition, the Wigwam Brook Beothuks (according to the site's faunal analysis) were likely living there year round (Stewart 1973:18), probably because an expanding white occupation of the coastline denied them access to marine resources (Tuck 1976:74-75), and to coastal structures such as wharves, stages, and stores which formerly would have been a rich source of nails. European tools (perhaps stolen from white furriers) made up 9.8% of the metal objects at Wigwam Brook (LeBlanc 1973: 118-136). Other late 18th/early 19th century sites along the Exploits River have yielded large numbers of trap parts (Don Locke, personal communication), also suggesting theft from furriers as opposed to absent fishermen.

Evidence that the Beothuks were in contact with the French comes from the discovery in 1983 of 16 ceramic sherds identified by Gerard Gussett (Parks Canada), as Normandy stoneware (personal communication). These sherds, representing at least two vessels, were recovered from Houses 11 and 3. Normandy stoneware was manufactured in France throughout the colonial period and thus cannot serve as a reliable chronological marker. The presence of this stoneware, in fact, casts further doubt on the possibility of using the pitifully small sample of pipestems to date the Boyd's Cove Beothuk occupation. The stoneware suggests that the pipes might be of French manufacture which would rule out use

of the Harrington-Binford pipestem dating formula, for no bore diameter chronology exists for French pipes. (There is a possibility, it should be noted, that the Boyd's Cove Beothuks were in contact with aboriginal allies of the French. Marshall [1981:74] has suggested possible contacts with the Montagnais, and there are Micmac oral traditions hinting at a peaceful relationship with the Beothuks [Howley 1915:25].)

So far, the earlier hypothesized date of AD 1670-1720 for Boyd's Cove (Pastore 1983a) continues to be based largely upon circumstantial evidence, now buttressed by one radiocarbon date (Beta 6729) of 270±70 B.P. on the previously mentioned shell midden, and slightly weakened by another date of 140±70 B.P. (Beta 6728) from charcoal recovered from a hearth built on the wall of House 1 after it was abandoned. None of the European objects, including the trade beads, appear to have any chronological specificity. It is doubtful, however, whether the site's highly visible pithouses could have been occupied much past the 1720's, since that decade saw the beginnings of a white occupation of the coastline as close as 6 km away (C.O. 194/6, f. 11). The recovery of a metal object, now positively identified as part of a trap base, points toward an occupation sometime after the 1670's when English furriers had begun to exploit the Bonavista Bay hinterland (Head 1976:19).

Boyd's Cove may have been occupied during the period 1670-1720 because it combined nearness to food stocks with safe access to Europeans. Boyd's Cove lies within a maze of islands and shoal waters which would have been fine for canoes, but dangerous for any European vessel larger than a longboat. In the period A.D. 1670-1720, Boyd's Cove was located in a niche between a French fishery in the western portion of Notre Dame Bay and an English fishery in Bonavista Bay (Head 1976:15-16). During this period, the site may well have been a refuge from which its inhabitants made canoe voyages to European zones to trade or to steal.

Eventually, recognition of changing styles in Beothuk house construction may assist in the dating of this site. Already, investigation of the Boyd's Cove houses has indicated some differences with those of other sites. House 1 was partially excavated in 1982 because its walls and entrance were well-defined and a test pit in its entrance indicated

a large shell and bone midden. Since the location of this midden suggested that it had been deposited by the occupants of neighboring House 11, that structure was chosen for excavation in 1983. Had it not been for the fact that we believed that we had already identified H-11's midden, we would not have excavated this house, for it appeared that extensive post-abandonment activities had blurred the outlines of its walls and distorted its internal features. (This proved to be the case; in fact our interpretation was made even more difficult by the discovery that House 11 had been subject to considerable ant and root disturbance.) House 3, on the other hand, was both clearer in outline and larger in area. It resembles House 1 in a number of ways, and was selected for comparison with Houses 1 and 11.

Surprisingly, the Boyd's Cove structures differ in some detail from historical accounts of Beothuk dwellings. These depict two types: a winter and a summer structure. The winter houses are described as square or multi-sided constructions, the latter composed of long posts driven vertically into the ground and flattened so as to fit together closely. Horizontal pieces of wood were attached to the tops of these posts, and to these were affixed poles which projected inward to form a conical roof with a smokehole in the middle. The roof was covered with bark and the walls were insulated by mounding up earth around them. The only acount mentioning interior dimensions refers to an inner diameter of ca. 6.7 m. Other descriptions refer to a central hearth surrounded by a number of shallow sleeping hollows (Howley 1915:15, 30, 85, 211). By contrast, summer wigwams are portrayed as circular frameworks of poles roofed with bark, skin, or canvas and having an inner diameter of ca. 2-3 m (perhaps an underestimation). Summer dwellings apparently also had sleeping hollows, but lacked the vertical posts and surrounding earthen walls (Howley 1915:15, 29-30, 48, 85).

House 1 most closely resembles the winter type of structure in dimensions, with an inner diameter of ca. 6.1 m, but it may have been built in a different manner. It appears to have been constructed by digging a shallow depression and then using the excavated earth to form a low, earthen wall in a shape which might be described as either eight-sided, or an irregular circle. Posts were sunk vertically into this

wall, perhaps 40 cm apart (although we cannot be sure of this spacing until more of the walls are excavated). These posts may have supported a roof projecting inward to the centre. A number of interior post holes suggests inner walls and interior racks. This configuration is similar to John Cartwright's account of a square structure on the Exploits River which was "framed nearly in the fashion of the English fishing houses, only that the studs were something apart, from which it was evident that they alone could not, in that state, form the shell as in the English buildings, where they are closely joined together. But eighteen inches within this and parallel to fit, there was another frame of slighter workmanship rising to the roof..." (Howley 1915:30). The space between these two walls, Cartwright assumed, had been filled with deerskin for insulation. Aside from the fact that House 1 is not square, its double-walled construction appears to resemble that described by Cartwright. House 1 also had a central hearth surrounded by sleeping areas. Only one oblong depression, some 1.7 m long and 5-7 cm deep, could be identified as a possible sleeping hollow (Pastore 1983a).

House 11 (Figure 3) differs in a number of ways from House 1. It might be described as a summer wigwam erected within a shallow depression. Its configuration may, with equal accuracy, be described as either six-sided or sub-circular, with a maximum inner diameter of 4.7 m. The builders of this dwelling took advantage of the natural slope where possible, and where necessary built up a low earthen wall, almost certainly out of excavated soil from the depression (Plates 1 & 2). The interior postholes near the base of the walls may indicate a wigwam while the postholes in the wall, at least three of which were angled inward, suggest that poles had been set in the earthen walls, perhaps to keep a covering in place over the frame. The three post holes on the margins of the hearth may indicate racks for cooking or storage. One or more of these may be evidence of a post or posts which supported the structure. One account of an early 19th century wigwam describes it as "simply a few poles supported by a fork..." (Howley 1915:85).

The hearth in House 11 was almost bare of fire-cracked rocks or charcoal, but was delineated by a shallow depression and an underlying stratum of burned, red subsoil (Figure 4). No sleeping hollows were

evident; the areas interpreted as sleeping areas were characterized by a much lighter concentration of rocks, and a relatively level topography. The northeast and southeast quadrants were characterized by hard-packed living floors, a characteristic not noticeable in the other two quadrants. In House 1, areas excavated by its builders were indicated by an absence of the ashy-grey leached zone characteristic of the region's podsols. For reasons that are not clear, this did not hold true in House 11 where the leached A_2 horizon had obviously re-formed in some areas (and was absent in others where one would have expected it to be). House 11 had been riven by several large roots, and its position, partially inside the modern forest margin, may be responsible for this.

Interpretation of House 11 was further complicated by the long prehistoric and historic aboriginal occupations at Area B. This has meant that its earthen walls, as well as those of House 1, are, in fact, secondary deposits of fire-cracked rock, loose, black organic material, and other cultural debris. Even if posts had been allowed to decay or burn in such a matrix, the resulting postmould would have been difficult to discover. Where structural posts have been removed, as appears to have been the case in House 11, the resultant postholes have been difficult or impossible to recognize. To make matters worse, house pits at Boyd's Cove have also been used in a variety of ways after abandonment. All three houses investigated have served as midden receptacles, for example, while one hearth was built on the wall of House 1, and another was built inside House 3. These post-abandonment activities have served to blur the outlines of the walls and perhaps to distort internal features. This was especially true in House 11. Although the entire interior of that house was excavated, an area of 13 m^2 has not been excavated below the surfaces of the walls. It is hoped that complete excavation of the walls will provide a more accurate picture of the house.

Investigation of House 3 was begun, and by the end of the season we had uncovered a large area down to the living floor of the interior and the original surfaces of the walls (Plate 3). The interior of this house measures ca. 5 m at its maximum (Plate 4), and appears to contain 4, or perhaps 5, oblong depressions around the outer perimeter of the interior. A small amount of fire-cracked rock has been found in the

centre, and we expect that subsurface excavation will reveal a central hearth. House 3 also appears to have been extensively used after abandonment. What has tentatively been identified as its entrance contains a bone and shell midden; a small hearth has been found in its northeast interior; and a large midden deposit of what appears to be mammal fat covers part of the northeast wall.

Clearly, the houses investigated so far at Boyd's Cove do not quite conform to historical descriptions of Beothuk houses. In fact, a house type intermediate between the summer and winter dwelling is implied for Boyd's Cove. House 11 might be described as a "winterized" summer dwelling, while the more substantial House 1 still lacks the large contiguous posts said to be characteristic of Beothuk winter houses. The Boyd's Cove houses also differ in some detail from modern reports of archaeologically investigated houses. Neither House 1 nor House 11 possesses the clear hexagonal plan of Devereaux's B5 house at Indian Point, or the pentagonal plan of LeBlanc's Feature 14 at Wigwam Brook. The "expanded corners" where walls joined, at the Indian Point and Wigwam Brook houses, were not discernible at Boyd's Cove, and although the Boyd's Cove houses had central hearths, they were not mounded as reported by Devereaux and LeBlanc. The Boyd's Cove houses also lack the peripheral interior platforms and the configuration of depressions of the B5 housepit. No clear evidence of postholes was found at either Wigwam Brook or at Indian Point where time precluded an investigation of subsurface features (Devereaux 1970; LeBlanc 1973).

The differences between the Boyd's Cove houses and those reported from Wigwam Brook and Indian Point, as well as those in historical accounts, may be chronological or locational in origin, or both. With the exception of John Guy's very brief description of a temporary coastal wigwam and another dwelling described only as "a square form with a small roofe" (Howley 1915:15), all other accounts refer to habitations occupied in the last half of the 18th century and the first quarter of the 19th century. Devereaux's B5 house and LeBlanc's Feature 14 very likely date to this period as well. By contrast, the Boyd's Cove structures may well date to a period perhaps 100 years earlier. The house construction at Boyd's Cove may simply reflect an earlier style, or it may reflect

the fact that Boyd's Cove is situated on the coast. Ordinarily, a coastal location might imply a relatively temporary wigwam, but as has been noted earlier, the faunal assemblage suggests occupation for much, if not most, of the year.

Support for these hypotheses comes from work done at Boyd's Cove this season, and from earlier work done by Devereaux at the Beaches site. Clear evidence that the Beothuks are the historic descendents of the possessors of the Little Passage Complex (see Penney 1981; Evans 1982; Pastore 1983a), comes from the discovery of some 14 Little Passage projectile points and four triangular bifaces found either with or above Beothuk iron objects. It should be noted that no evidence for the construction of pit houses has been found at any Little Passage sites, and this suggests that the Boyd's Cove houses may represent an evolutionary mid-point between the (presumably) flimsy structures of the late prehistoric period and the very substantial structures of the late historic period. Indeed, it is tempting to speculate that the historic pit houses are a function of Beothuk access to European goods which would have made both house construction and subsistence technology more efficient.

Devereaux (1969) partially excavated two Beothuk house pits at the Beaches and although they were probably, as Devereaux notes, disturbed by high seas, in size and shape they resemble the Boyd's Cove structures. One house at the Beaches also contained a number of stone tools including what would now be described as a Little Passage point, as well as iron artifacts. It is quite possible that this occupation might have occurred at roughly the same time as that of Boyd's Cove.

Both the Beaches site and Boyd's Cove indicate a long prehistoric and historic occupation (Carignan 1977), Area B at Boyd's Cove, however, has been largely free of the sorts of disturbances which have complicated interpretation of culture history at the Beaches. This has enabled us to begin constructing a typology of Little Passage projectile points based on their relative stratigraphic position. Although more work is needed, some trends through time are immediately recognizable (Plate 6). Clearly, there was a tendency in later periods to make these points smaller, and stemmed rather than corner-notched. Eventually, we hope

to be able to construct a more detailed typology of Little Passage artifacts which should be of considerable use to students of Newfoundland prehistory.

The 1983 field season was financed by grants from the SSHRC and from the Historic Resources Division, Department of Culture, Recreation and Youth, Province of Newfoundland and Labrador. I would like to thank Jane Sproull Thomson for her support, Dr. James Tuck for his invaluable advice and patience, and an exceptional crew consisting of Gary Baikie, J. M. Barber, Bill Gilbert, Mary Pittman, Doug Robbins (Crew Chief), Fred Schwarz, and Jeff Webb.

REFERENCES

CARIGNAN, Paul C.
1977 Beothuk Archaeology in Bonavista Bay. Mercury Series No. 69. National Museum of Man, Ottawa.

DEVEREAUX, Helen
1969 Five Archaeological Sites in Newfoundland: a Description. On file at the Newfoundland Museum, St. John's.

1970 A Preliminary Report on the Indian Point Site, a Stratified Beothuk Site. On file at the Newfoundland Museum, St. John's.

EVANS, Clifford O.
1982 Frenchman's Island Site (ClAl-1) Preliminary Field Report. Archaeology in Newfoundland and Labrador 1981, Annual Report 2:210-225. J. Sproull Thomson and C. Thomson eds. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

HEAD, C. Grant
1976 Eighteenth Century Newfoundland. McClelland and Stewart Ltd., Toronto.

HOWLEY, James P.
1915 The Beothuks or Red Indians. Cambridge. Reprinted 1974 by Coles Publishing Co., Toronto.

LEBLANC, Raymond
1973 The Wigwam Brook Site and the Historic Beothuck Indians. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

MARSHALL, Ingeborg
1981 Disease as a Factor in the Demise of the Beothuck Indians. Culture I (1):71-77.

PASTORE, Ralph

1982 Locational Distribution of Aboriginal Sites on the Island of Newfoundland. Paper presented at the 1982 CAA meeting, Hamilton, Ontario.

1983a A Preliminary Report on Investigations at Boyd's Cove-1, Beothuk And Recent Indian Site in Notre Dame Bay, Newfoundland. Archaeology in Newfoundland and Labrador, 1982, J. Sproull Thomson and C. Thomson eds., Annual Report 3:133-160. historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

1983b Beothuk Acquisition and Use of European Goods. Paper presented at the 1983 CAA meeting, Halifax, N.S.

PENNEY, Gerald

1981 The L'Anse a Flamme Site (CjAx-1) and the Little Passage Complex. Paper presented at the 1981 CAA meeting, Edmonton, Alberta.

PUBLIC RECORDS OFFICE, Great Britain

Colonial Office Records. Series 194, vol. 8. On microfilm, Public Archives of Newfoundland and Labrador, St. John's.

STEWART, Frances L.

1973 Faunal Analysis of the Wigwam Brook Site, Newfoundland. Appendix 1, Raymond LeBlanc, The Wigwam Brook Site and the Historic Beothuk Indians. Unpublished M.A. thesis, Department of Anthropology, M.U.N., St. John's.

TUCK, James A.

1976 Newfoundland and Labrador Prehistory. National Museum of Man, Ottawa.

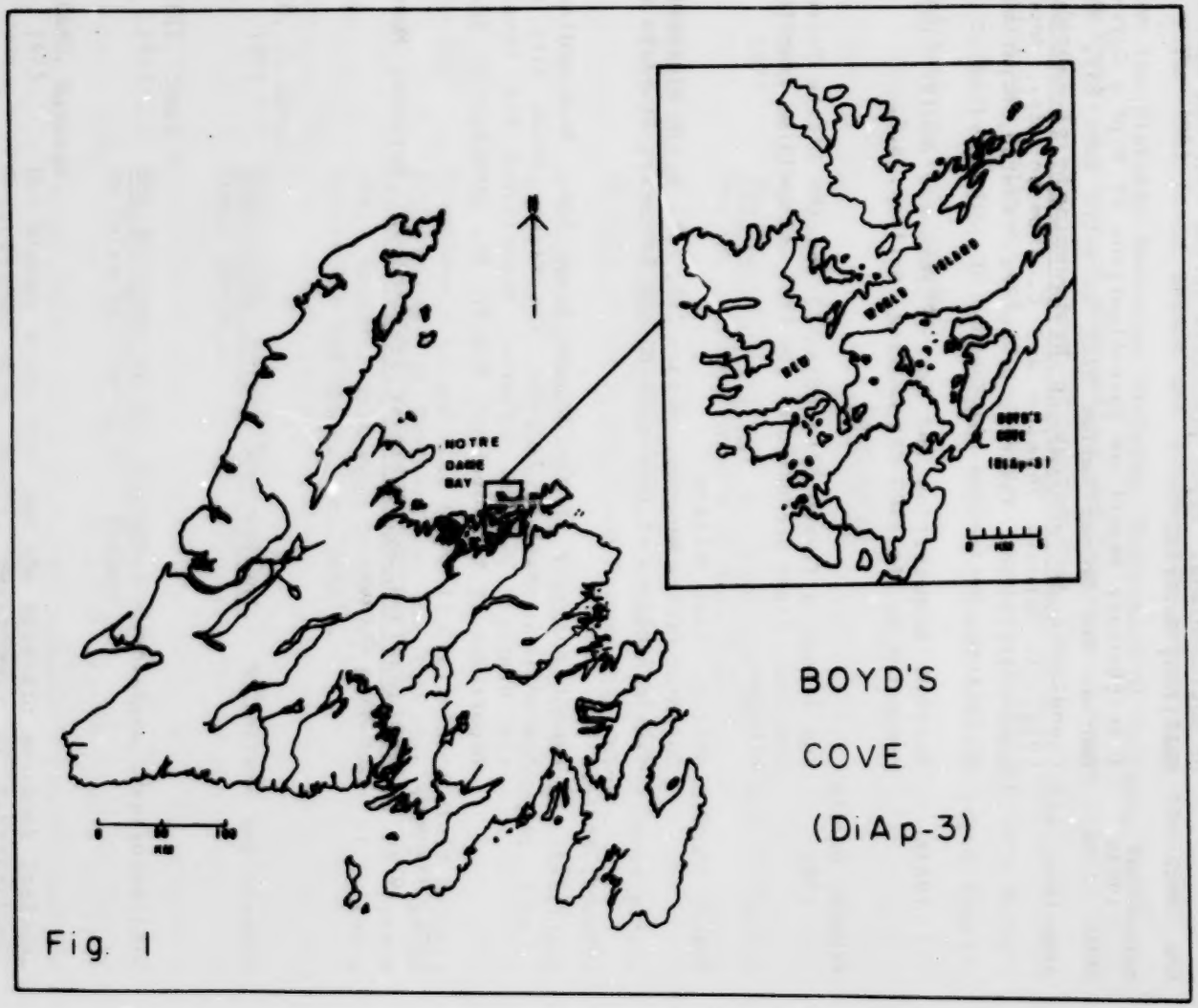
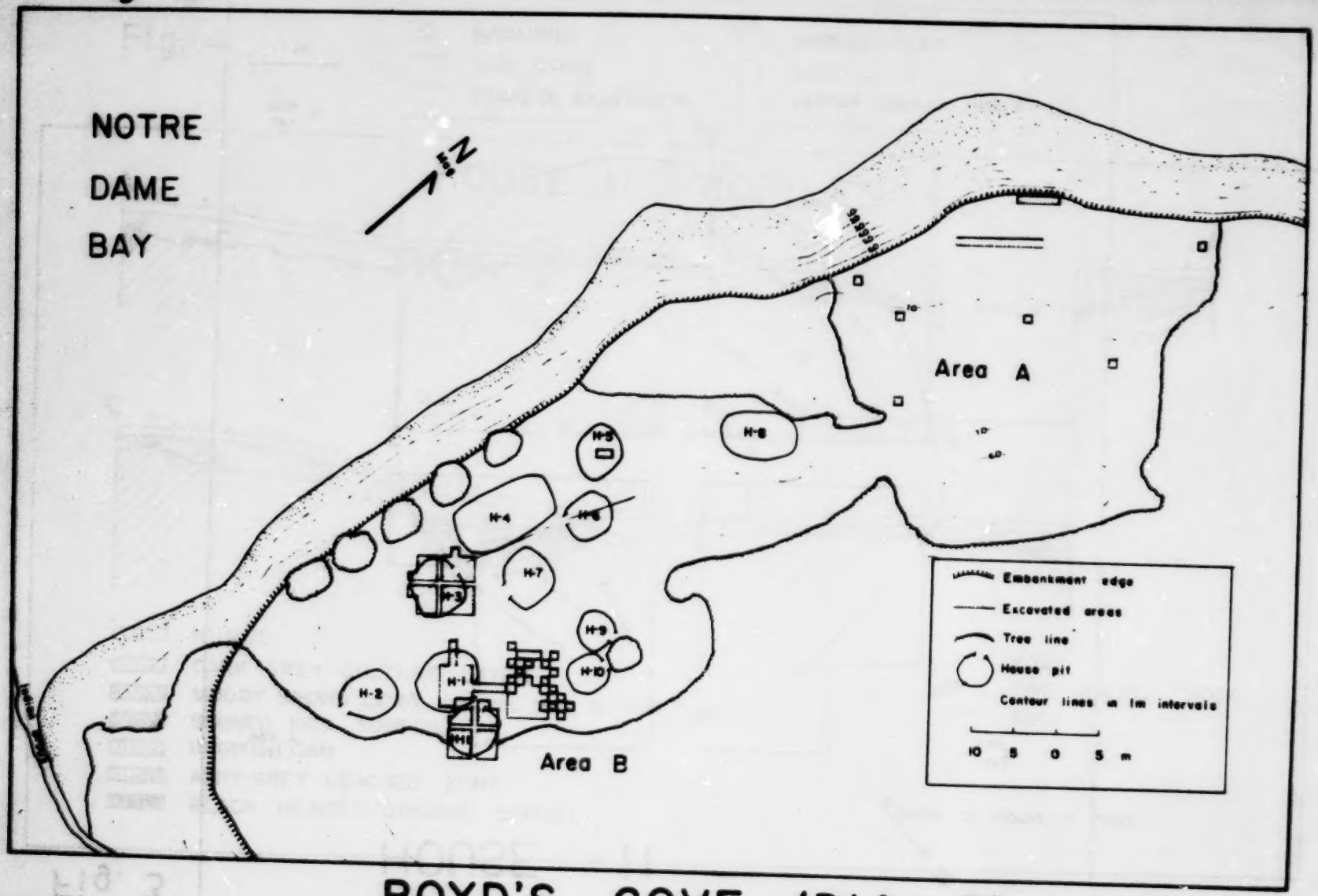


Fig. 1

Fig. 2



BOYD'S COVE (DiAp-3)

Preliminary Map, 1983

Fig. 3

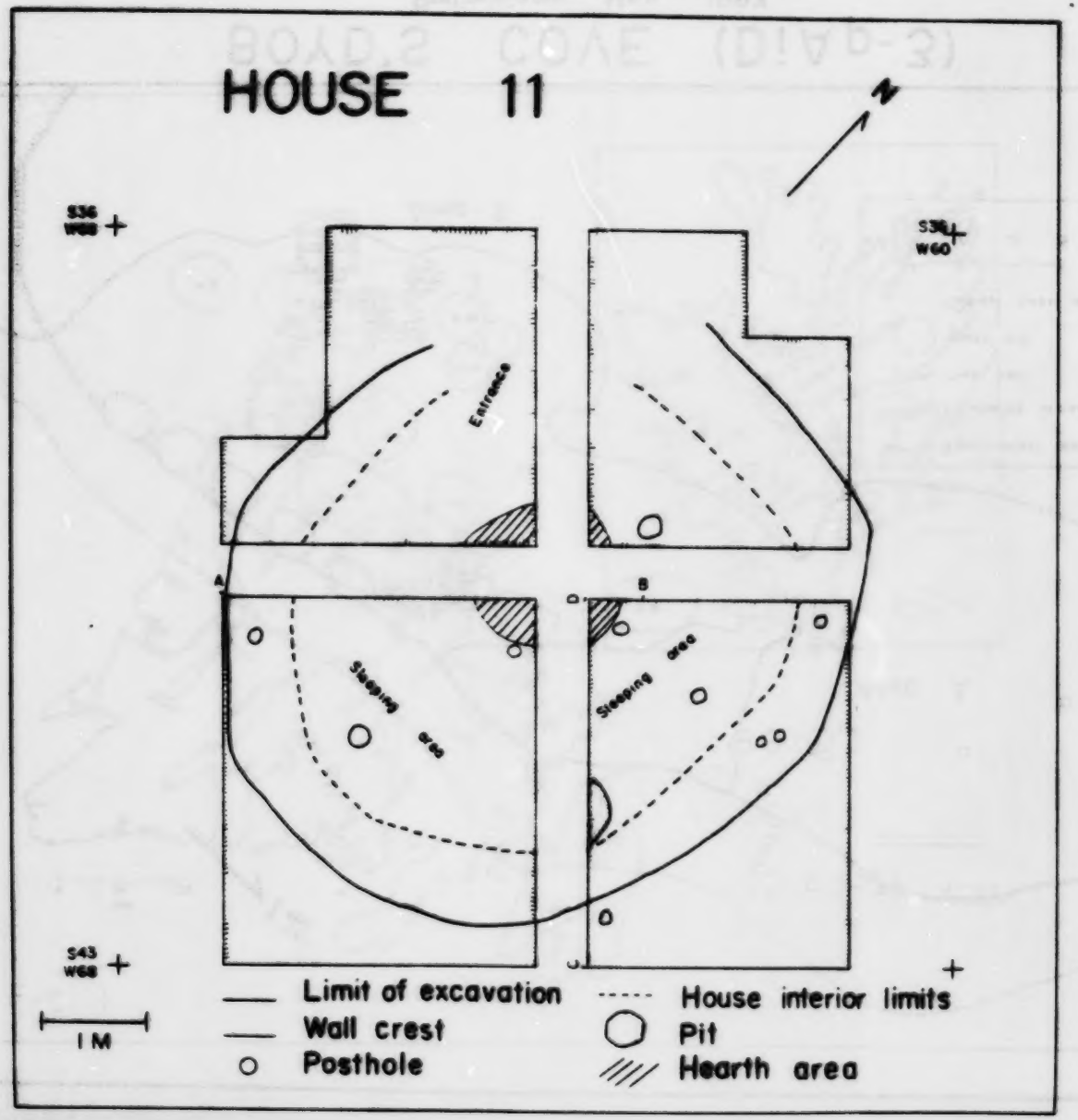

HOUSE 11
N
S36 W68
S36 W60
S43 W68
Entrance
Sleeping area
Sleeping area
A
B
1 M
Limit of excavation
Wall crest
Posthole
House interior limits
Pit
Hearth area

Fig. 4

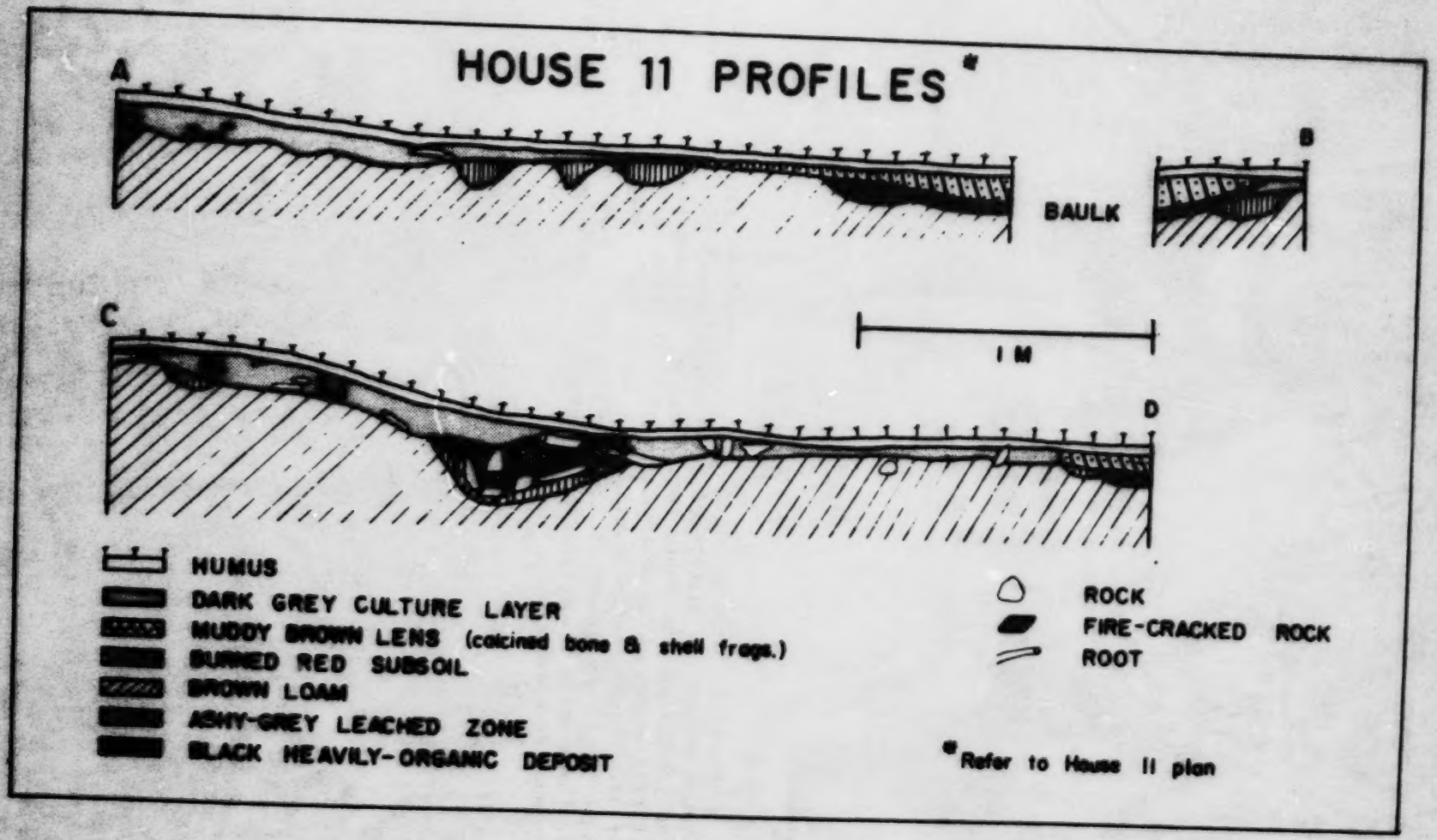

HOUSE 11 PROFILES*
A
B
BAULK
C
D
1 M
HUMUS
DARK GREY CULTURE LAYER
MUDDY BROWN LENS (calcined bone & shell frags.)
BURNED RED SUBSOIL
BROWN LOAM
ASHY-GREY LEACHED ZONE
BLACK HEAVILY-ORGANIC DEPOSIT
ROCK
FIRE-CRACKED ROCK
ROOT
*Refer to House 11 plan

PLATE 1

House 11, looking northwest. The hearth is located where the two baulks cross; the blackboard marks the southeast edge of the entrance. The profile of the baulk on the far right indicates that the builders of this structure took advantage of a slight natural rise to form part of the house's earthen wall. The three 1 m^2 units in the background have not been excavated completely. The cultural material remaining in these units illustrates the extensive use of House 11 after its abandonment as a dwelling.

PLATE 2

House 11 looking southeast through the entrance. Note the profile of the baulk on the extreme left which indicates that the house builders built up a low earthen wall to match the slight natural rise on the other side of the baulk.

PLATE 3

House 3 looking southeast from above. The baulk on the far left runs through a black greasy midden of what appears to be mammal fat deposited on the wall of the house after its abandonment.

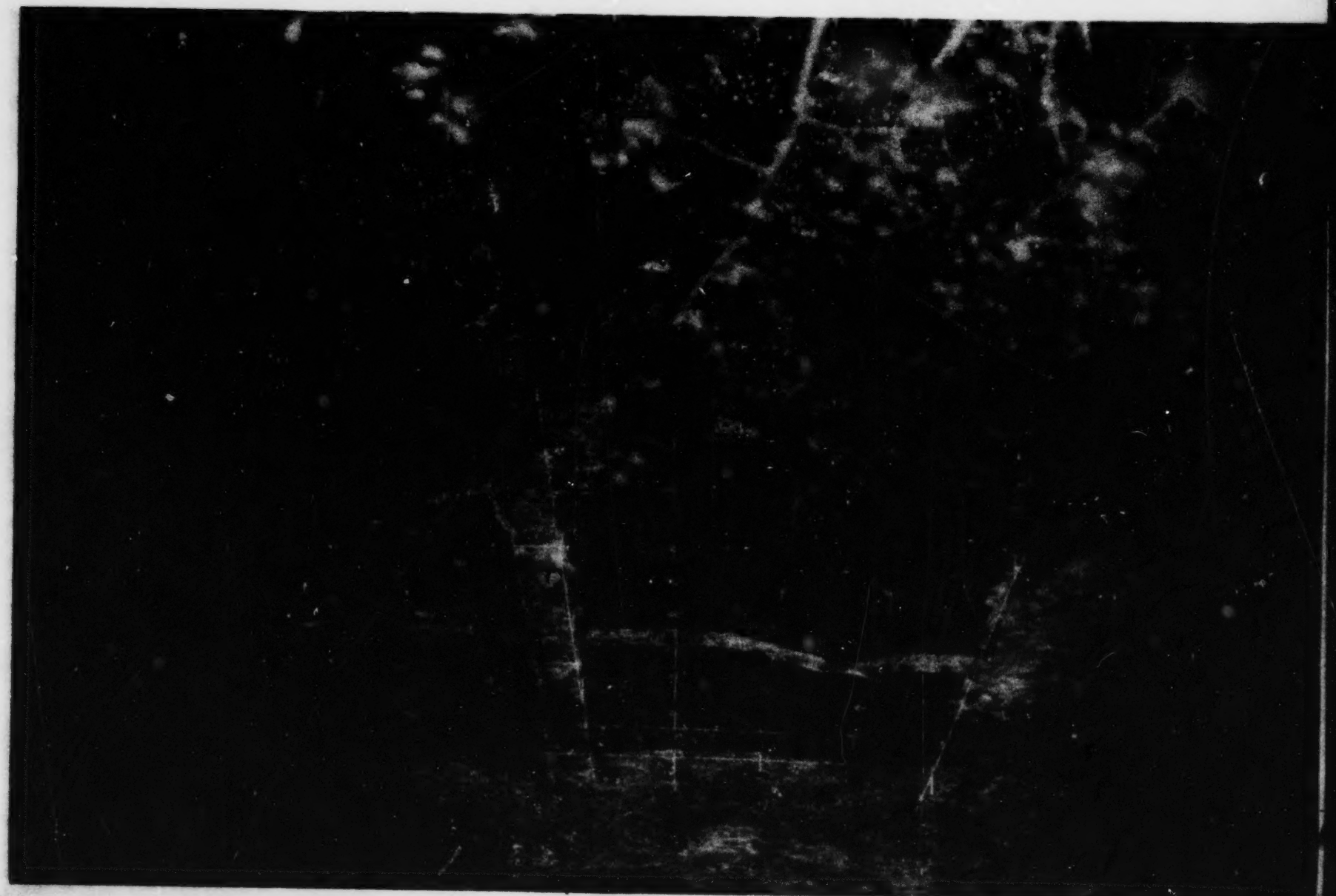


PLATE 4

House 3 looking southwest. The string marks the approximate inner limits of the house. Sleeping hollows can be distinguished in the southeast and southwest quadrants, to the left of the centre baulk, at the base of the walls.

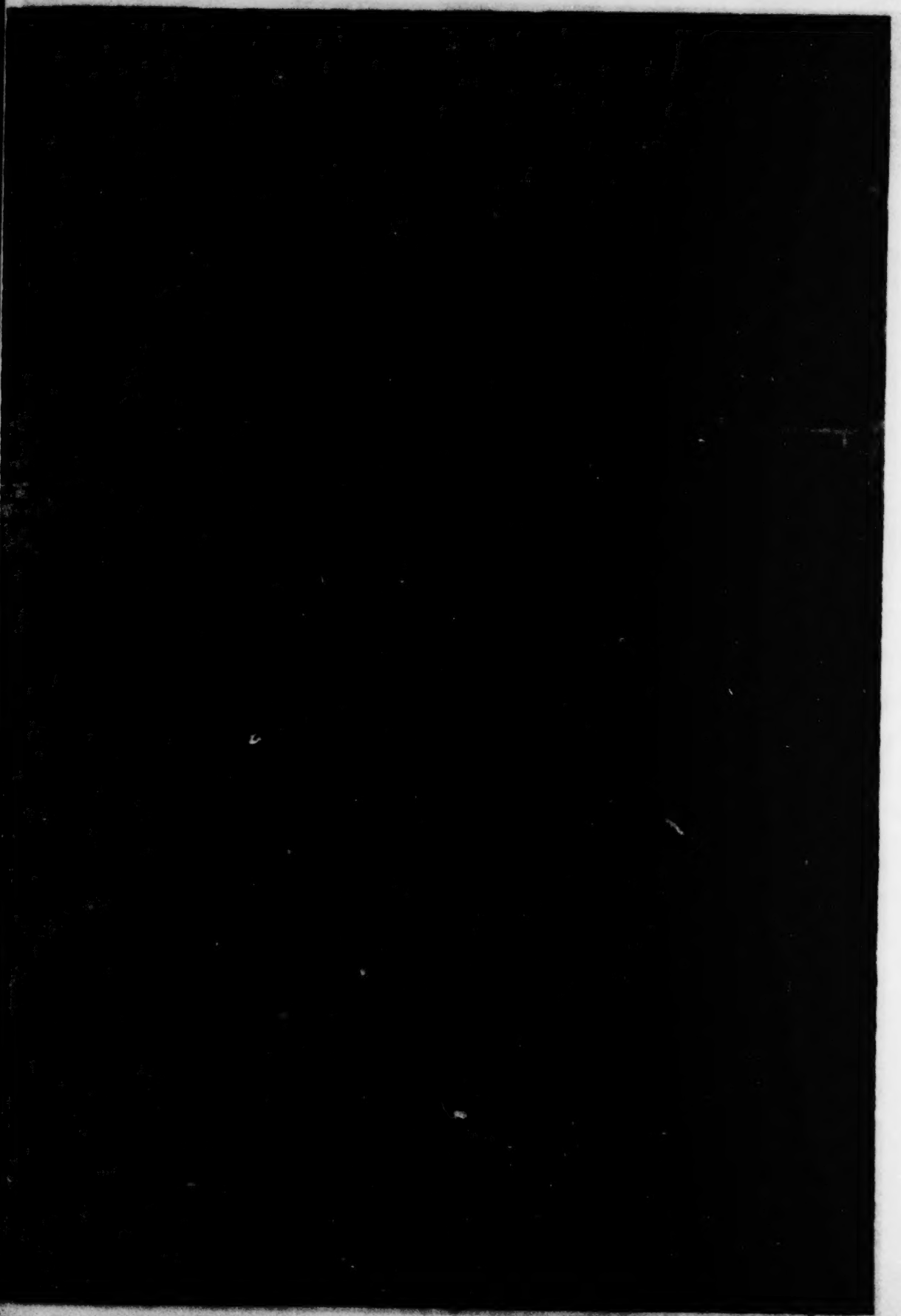


PLATE 5

Feature 83-3, a concentration of fire-cracked rocks. This feature appears to be associated with the prehistoric Little Passage complex.

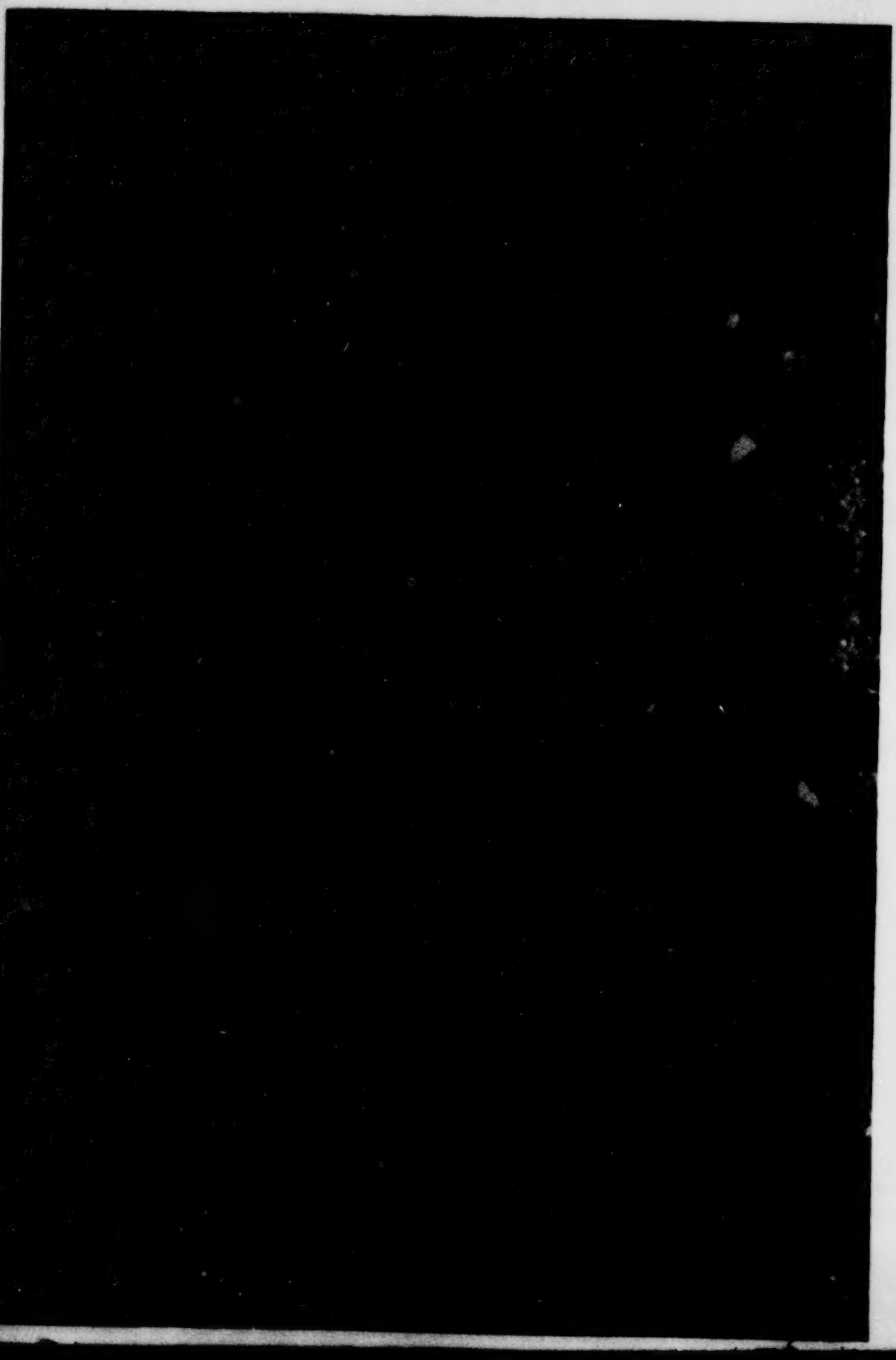
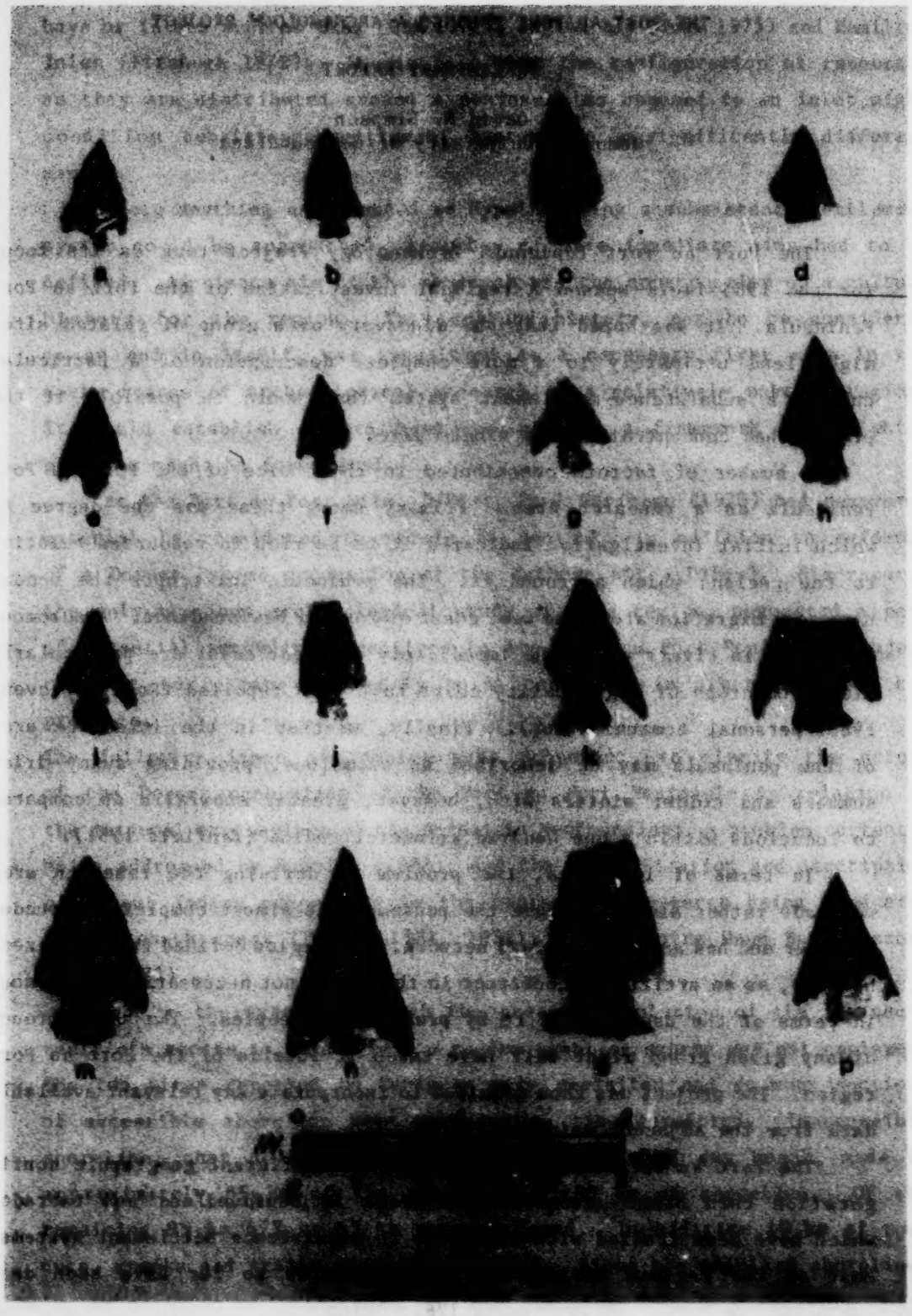


PLATE 6

Projectile points. Points a-c were found on top of house walls; d was found in House 3 above the living floor; all, therefore, postdate house occupations. Points e,f were found inside the entrance to House 1 with and above the iron objects; g-j were found inside houses on the living floors. Point k was found near Feature 83-3; l was recovered from wall fill as was n; m was excavated from an area just outside House 1, but below the historic Beothuk level. Projectile points o and p were recovered from Inspector Island (DiAq-2), a Beothuk/Little Passage complex site 9 km west of Boyd's Cove. Point o was associated with charcoal, radiocarbon dated at 610±60 B.P., while p came from a hearth which produced charcoal dated at 690±40 B.P. While both o and p may be considered Little Passage points, their morphological differences may be functional in origin.


a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p

THE PORT AU PORT PENINSULA ARCHAEOLOGY PROJECT

PRELIMINARY REPORT

David N. Simpson
Memorial University of Newfoundland

The Port au Port Peninsula Archaeology Project took as its focus for the 1983 field season a regional investigation of the Port au Port Peninsula. It was hoped that the discovery of a group of related sites might lead ultimately to a more complete description of a particular culture's subsistence-settlement system than would be possible if the project had concentrated on a single site.

A number of factors contributed to the choice of the Port au Port Peninsula as a research area. Primary among these was the degree to which initial investigation indicated it to be rich in resources relative to the regions which surround it. The peninsula interrupts the annual harp seal migration along the west coast of insular Newfoundland. Anadromous fish runs in rivers along the immediately adjacent coast are particularly rich. Outcrops of high quality chert have been reported (Robert Stevens 1983: personal communication). Finally, weather in the immediate area of the peninsula may be described as anomalous, providing sunny drier summers and colder winters with, however, greater snowfalls as compared to locations within a one hundred kilometer radius (Banfield 1981).

In terms of logistics, the problem of defining the research area was made rather simple because the peninsula is almost completely bounded by water and has an adequate road network. The region defined is recognized, however, as an artificial construct in that it is not necessarily autonomous in terms of the use made of it by prehistoric peoples. The annual round of any given group might well have taken it outside of the Port au Port region. The project was thus required to incorporate any relevant available data from the adjacent mainland.

The Port au Port Peninsula also forms a different geographic configuration than other resource rich areas in Newfoundland and Labrador which have been studied with reference to subsistence settlement systems. Most of the regions defined for such research so far have been deep

bays or inlets such as Okak (Cox 1977), Saglek Bay (Tuck 1975) and Hamilton Inlet (Fitzhugh 1972). It was felt that the configuration of resources as they are distributed around a peninsula as opposed to an inlet might condition subsistence-settlement systems in a significantly different manner.

Before anything as advanced as hypothesizing a subsistence-settlement system could be approached, a number of more immediate aims had to be defined. A primary aim of the research was the construction of a culture history for the region. This culture history, not to be considered as an end in itself, was visualized as a necessary first step in the early stages of archaeological research in a relatively unknown region. It would establish a data base and provide a framework within which problems might be formulated.

At the Port au Port site, DdBq-1, Paul Carignan (1975) had recovered material he considered to relate to Beothuk, in addition to evidence of a Dorset Eskimo occupation at the Isthmus site, DdBq-2. His report, the only previous archaeological study of this region, suggested a pair of potential secondary objectives to the Port au Port Peninsula Project relevant to research currently being conducted in other areas of the province.

The following lines of inquiry were proposed: to clarify the nature of the Dorset occupation of the Port au Port Peninsula in relation to the regional expressions of the Dorset in Newfoundland, a problem currently being addressed by Robbins (1983); and the identification and description of Recent Indian components in the context of research being conducted on the south coast (Penney 1981, 1982), and in Notre Dame Bay (Pastore 1982, 1983).

Due to the extent to which the present population of the peninsula restricts access to some areas, a random sampling scheme was not employed. The two sites reported by Carignan were revisited and as many sections of accessible shoreline were surveyed as time permitted. Inaccessible shoreline, that dominated by cliff with little if any beach, made up approximately 85 km of the peninsula's 180 km of shoreline. Of the remaining 95 km 57% or 55 km were surveyed. In addition 10 km of road cuts, creeks and trails were investigated. Along the mainland shoreline,

the mouth of the Fox Island River, a section of 2 km south of Black Point, and approximately 1 km of St. George's Bay near Stephenville were surveyed.

A total of four sites as well as three chert outcrops were located. The Port au Port site, DdBq-1, is located immediately to the north of the isthmus overlooking East Bay. It stretches 200 m along an eroding bank which rises from 2 m in the south to 5 m in the north. Behind the bank is a grassy meadow which rises to the northwest. The northern and northwestern extremes of the field are covered by creeping evergreens and it is surrounded by coniferous trees.

Dorset cultural material was recovered eroding from the whole 200 m of bank, being most densely concentrated toward the center where the bank is 4.5 m in height. Nine 1 m units were excavated in this central area and testing indicated that the concentration extends at least 15 m in from the bank.

Further testing indicated the presence of different cultural material in a band 40 to 60 m from the bank. One 2 x 2 m block was excavated in this area revealing the presence of a Little Passage Indian component (see Penney 1981). While no mixing was evident between the areas excavated, it may well be that the spatial separation between the two components is not complete (i.e. that there might be a zone of mixing).

Approximately 1,000 artifacts were recovered from the Dorset component. A detailed artifact description is not yet available but the assemblage will be described briefly below. End blades (25) are manufactured out of a variety of coloured cherts and all but one are tip-fluted. Grinding occurs on only one, on its dorsal and ventral surfaces near the base. Basal concavity ranges from slight to marked. The average lengths and widths are 30.0 mm and 16.2 mm respectively. Approximately 100 scrapers of varying form but generally very fine workmanship were recovered. The remainder of the assemblage is characterized by burin-like tools, fragments of ground slate, soapstone vessel fragments, as well as chert and quartz crystal blades and microblades. Also present was one bifacially worked chert object with multiple notches (or barbs?). The artifact is 19.5 mm long, 9.0 mm wide, has a pointed tip, concave base, and three sharp projections along each side. No Ramah chert was observed.

A large collection of faunal material was recovered. This also is yet to be fully described, but some of the species represented include seal, caribou and some type of small mammal. One pit outline was discovered and large pieces of charcoal were recovered from near its bottom. The area around this presumed hearth corresponded to the highest density of faunal material. One charcoal sample from this feature, and another from charcoal scatter likely related to it, were submitted for radiocarbon analysis. The age of the hearth sample was determined to be 1350±60 B.P. (Beta 7778) and the other 1300±80 B.P. (Beta 7777).

The block excavated in the area behind the Dorset component yielded two complete and three fragmentary Little Passage projectile points, triangular bifaces, large thick ovoid bifaces, random flake scrapers, linear or blade-like flakes, and one side-notched projectile point. All but the last of these were manufactured out of a fine grey-green chert, some of which has red banding. The side-notched point was made from a coarser black material and its cultural affiliation has not yet been determined. Two shallow concentrations of charcoal and bonemash amid a scatter of fire-cracked cobbles are being interpreted as hearths. The age of the charcoal sample from one of these is 790±70 B.P. (Beta 7779). Immediately to the south of DdBq-1, along the same bank is the Isthmus site, DdBq-2. This site has been seriously disturbed as a result of construction activities. No diagnostic materials were found, although Carignan reported a Dorset end blade and a drill.

Further to the south, overlooking the pond which divides the isthmus, is the Gravel Pond site, DdBq-3. Lithic debris was recovered eroding out of a 2.5 m bank as well as on the surface behind it. Testing revealed the presence of a small amount of historic material mixed with few additional prehistoric artifacts. The only diagnostic prehistoric artifact was an abrader manufactured out of soapstone or a soapstone-like material; an Eskimo occupation is thus indicated.

The Long Point site, DeBq-1, was discovered at some distance from the others, at the northern extreme of the peninsula. Located on the southeast side of the point named The Bar, near the end of the ridge which runs most of its length, DeBq-1 commands a view of both East Bay and West Bay. The ridge provides some shelter from the wind as well

as a view of the Gulf of St. Lawrence to the north, west and southwest. One asymmetrical biface, an abrader of coarse soapstone or a soapstone-like material and lithic debris were found eroding out along 70 m of a 2 to 3 m high bank. Testing along the bank yielded only a small amount of lithic debris and tests in the wet ground behind as well as on the slope and crest of the ridge were sterile. As with DdBq-3 an Eskimo occupation is indicated.

Two outcrops of fine grey-green chert were located, one on the shore of West Bay, the other on the mainland shoreline of East Bay. Some material from the latter exhibits bands of red coloration. The beach several kilometers to either side of the West Bay outcrop has scattered blocks of useable chert along it as well. These locations appear to have been used by the Little Passage people at DdBq-1 almost exclusively, while the Dorset occupation displays the use of a variety of cherts. Another outcrop of distinctive chert occurs on the west coast of the peninsula. This is a coarser grey chert which appears to be made up of small angular blocks in a clear matrix.

The materials recovered this summer are still being analyzed but a number of preliminary statements may be made regarding the directions in which the analysis will be proceeding. End blades from the Dorset component at DdBq-1 appear similar to end blades from most other west coast and Great Northern Peninsula sites. When compared to a collection from Englee, EeBa-1, the DdBq-1 end blades are virtually indistinguishable in general form. Differences between the collections to be addressed include the use of different raw materials and a significantly lower frequency of tip-fluting at EeBa-1.

While the number of scrapers recovered from DdBq-1's Little Passage component is relatively small, comparing them to the Dorset scrapers from the same site may help to clarify the problem of distinguishing between Indian and Eskimo scrapers found in mixed contexts.

The Little Passage people who occupied DdBq-1 selected predominantly a fine grey-green chert. This tendency has also been noted in other areas of the province. An analysis of the Port au Port cherts and debris from some of these sites has been initiated in order to determine if the Port au Port Peninsula might have supplied chert to Little Passage

groups across the island. All indications so far tend to support this possibility (Robert Stevens 1983: personal communication).

The faunal collection and its economic implications will be discussed more thoroughly in a forthcoming thesis. Soil samples collected from DdBq-1 are currently being subjected to flotation. As yet only samples from the Little Passage component have been inspected and carbonized seeds have been identified.

In view of the objectives outlined earlier, the 1983 field season at Port au Port may be considered to have been very successful. Two cultural groups have been identified and dated. The Dorset occupation at DdBq-1 appears to 'fit' as part of a western group of Dorset who occupied insular Newfoundland. Another group or groups inhabited the northeast and south coasts (Robbins 1983). End blades in these latter areas tend to be longer and made from locally available cherts. On the south coast there is a higher incidence of grinding, and a patinated white chert was the dominant raw material used. The Dorset dates from DdBq-1 (1300±80 B.P. and 1350±60 B.P.) and Stock Cove, CkAl-3, at the bottom of Trinity Bay (1280±60 B.P. and 1560±60 B.P., Douglas Robbins 1983: personal communication) indicate that the distict occupations found in these two areas overlapped in time. A comparison of the Little Passage Indian component at DdBq-1 to other Little Passage components in the east will perhaps prove fruitful in terms of identifying regional or temporal trends. While not a great number of sites were located, it is expected that statements regarding subsistence-settlement systems will be made once the material has been analyzed more fully. It is hoped that this research might stimulate further work at the Port au Port Peninsula and elsewhere.

Acknowledgements

This research was made possible through grants received from the Historic Resources Division, Department of Culture, Recreation and Youth, and the Institute of Social and Economic Research, Memorial University of Newfoundland. I would also like to thank the St. John's and Stephenville Provincial Parks offices for their assistance. Kevin Jesso and his staff at Piccadilly Head Provincial Park were always gracious and extremely

helpful. To Boyd Winsor, and Mrs. White and her family, the Hinks, the Marchs, Col. Abbott and the employees of Abbott and Halliburton's, R.K. Strapp and M. Leitch of Toronto, A. Leitch of Corner Brook, and M. Leitch of Labrador City, I thank you for your interest and support. Sheila Grondin has donated much of her valuable time cataloguing. Jim Tuck, Stuart Brown and Priscilla Renouf have provided invaluable guidance. Special appreciation is extended to an exceptionally fine crew, Mark Deichman and Fred Schwarz in the lab, and Jeannie Howse, Susan Kearsey, Ken Reynolds and Blue in the field.

REFERENCES

BANFIELD, Colin
1981 The Climatic Environment of Newfoundland. The Natural Environment of Newfoundland Past and Present, A.G. MacPherson and J.B. MacPherson (eds.). Memorial University of Newfoundland. Pp. 83-153.

CARIGNAN, Paul
1975 Archaeological Survey - 1975, an unpublished report prepared for the Newfoundland Museum.

COX, Steven L.
1977 Prehistoric Settlement and Culture Change at Okak, Labrador. Unpublished Ph.D. thesis, Harvard University.

FITZHUGH, William W.
1972 Environmental Archeology and Cultural Systems in Hamilton Inlet, Labrador, Smithsonian Contributions to Anthropology, No. 16.

PASTORE, Ralph
1982 Preliminary Report of a Survey of Eastern Notre Dame Bay. Archaeology in Newfoundland and Labrador 1981, J. Sproull Thomson and C. Thomson eds., Annual Report 2:152-173. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

1983 A Preliminary Report on Investigations at Boyd's Cove-1, A Beothuk and Recent Indian Site in Notre Dame Bay, Newfoundland. Archaeology in Newfoundland and Labrador 1982, J. Sproull Thomson and C. Thomson eds., Annual Report 3:133-160. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

PENNEY, Gerald

1981 A Preliminary Report on the Excavation of the L'Anse a Flamme Site (CjAx-1). Archaeology in Newfoundland and Labrador 1980, J. Sproull Thomson and C. Thomson eds., Annual Report No. 1:95-110. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

1982 Archaeological Investigations on the South Coast of Newfoundland, 1981. Archaeology in Newfoundland and Labrador 1981, J. Sproull Thomson and C. Thomson eds., Annual Report 2:226-237. Historic resources Division, Department of Culture, Recreation and Youth. St. John's.

ROBBINS, Douglas

1983 "Newfoundland Dorset" culture? Paper presented at the 16th Annual Meeting of the Canadian Archaeological Association, Halifax, N.S.

TUCK, James A.

1975 Prehistory of Saglek Bay, Labrador, Archaeological Survey of Canada, Mercury Series Paper No. 32, National Museums of Canada.

Figure 1

Port au Port Peninsula
Survey Area

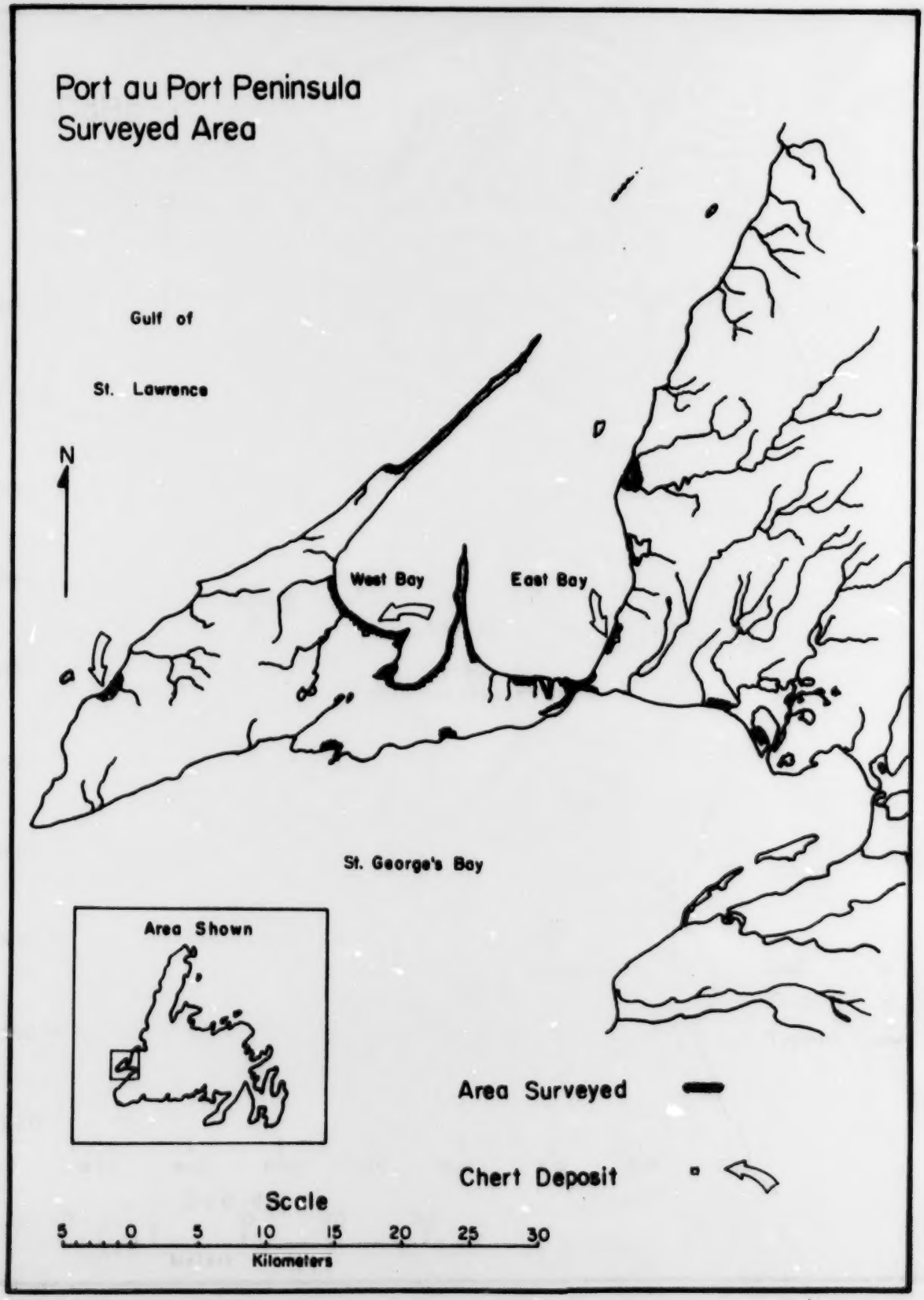

Port au Port Peninsula
Surveyed Area
Gulf of
St. Lawrence
N
West Bay
East Bay
St. George's Bay
Area Shown
Area Surveyed
Chert Deposit
Scale
5 0 5 10 15 20 25 30
Kilometers

Figure 2

DdBq-1
Excavation Plan

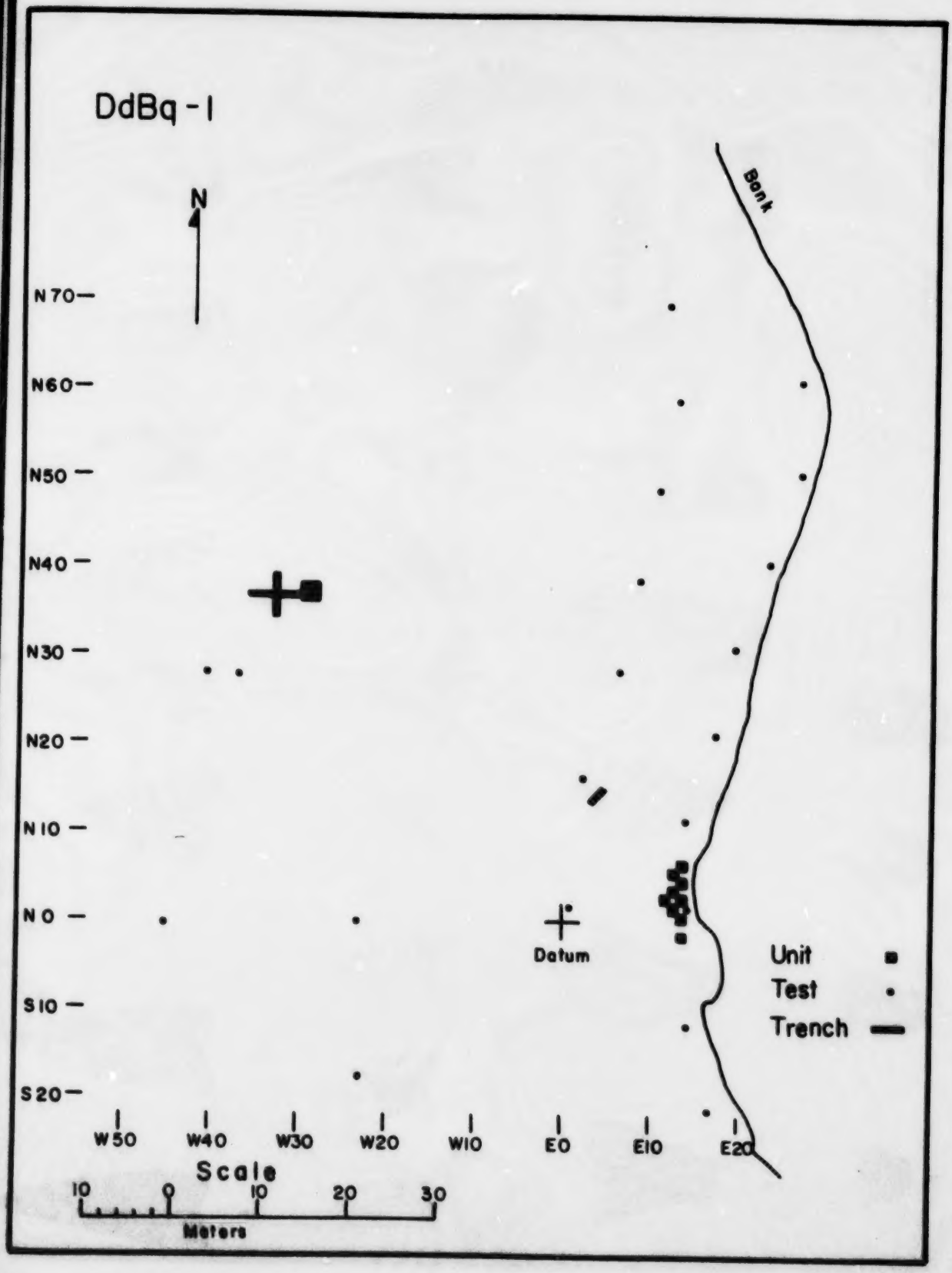

DdBq-1
N
Bank
N70
N60
N50
N40
N30
N20
N10
N0
S10
S20
W50
W40
W30
W20
W10
E0
E10
E20
Datum
Unit
Test
Trench
Scale
10 0 10 20 30
Meters

Plate 1

DdBq-1 Dorset Material

A to O - Unground end blades
P - Partially ground end blades
Q to U - Scrapers
V to W - Concave scrapers
X to BB - Scrapers

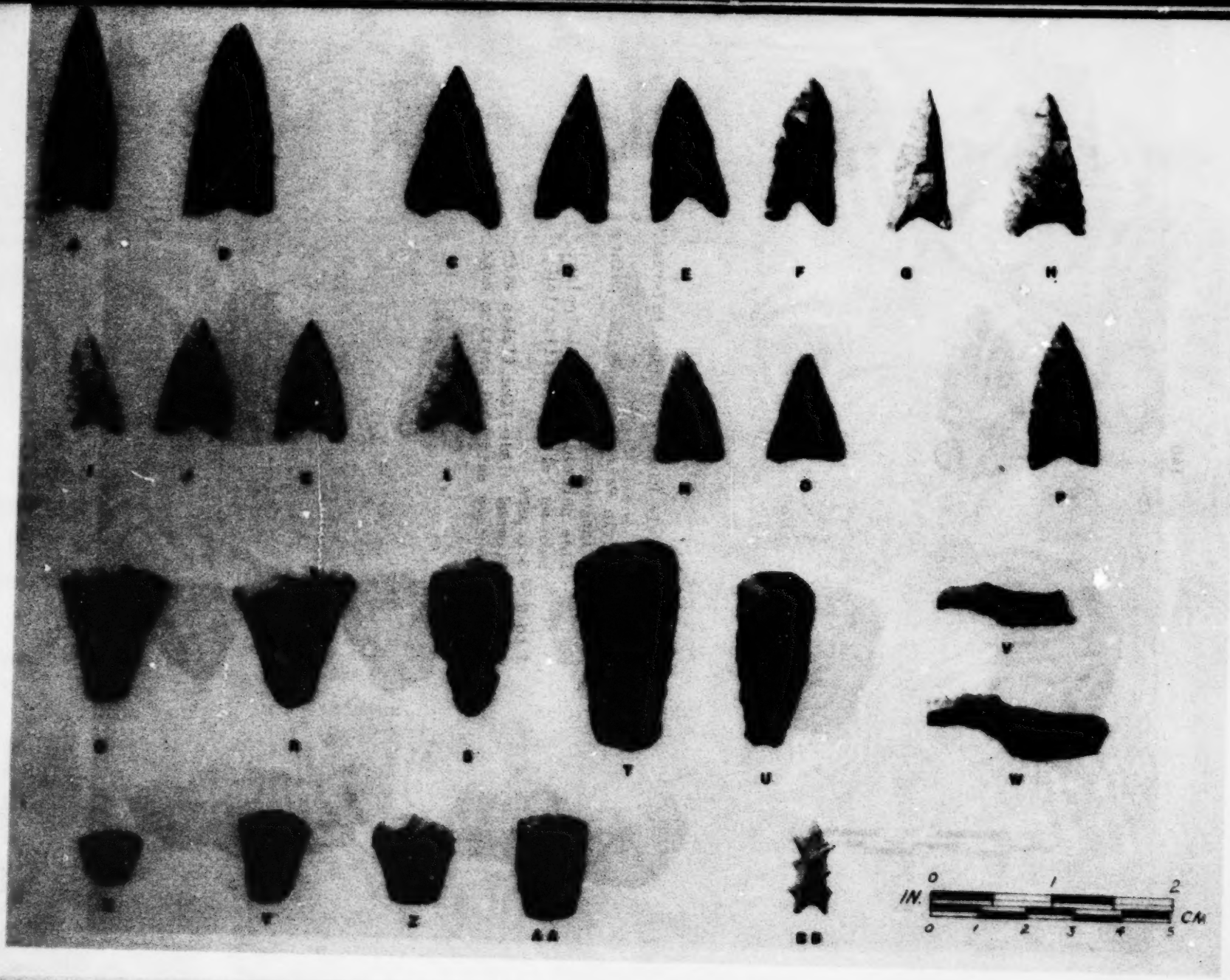
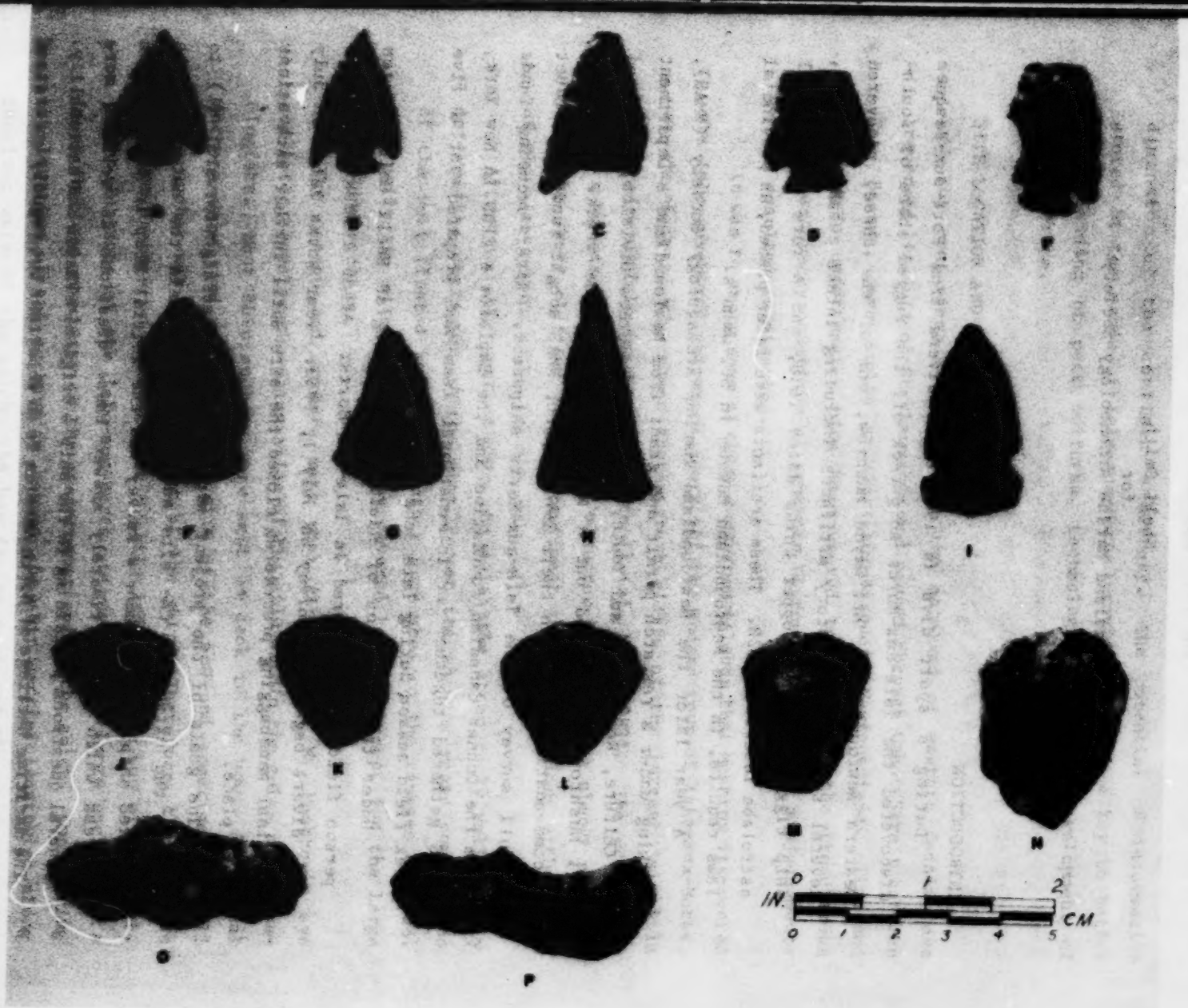

IN.
0
1
2
CM
0 1 2 3 4 5

Plate 2

DdBq-1 Little Passage Complex Material

A to E - Little Passage projectile points
F to H - Triangular Bifaces
I - Side notched projectile point, unknown cultural affiliation
J to N - Scrapers
O to P - Stemmed blade-like flakes with concave unifacial working edge


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IN.
0 1 2
CM
0 1 2 3 4 5

THE 1983 ISLE AUX MORTS SURVEY

Sheli Smith
for
Newfoundland Marine Archaeology Society

INTRODUCTION

During a sport dive in 1981 three divers from Port-aux-Basques discovered the Isle-aux-Morts shipwreck off the rugged shore of south-western Newfoundland. Mr. Wayne Mushrow, one of the three, recovered several seventeenth century artifacts including intact ceramic vessels, ship rigging, French copper coins dated 1638, and a rare navigational astrolabe inscribed 1628. These artifacts were later placed, as provincial laws require, in the Newfoundland Museum in St. John's.

A year later the Newfoundland Marine Archaeology Society (NMAS), working under a research permit and grant from Newfoundland's Department of Culture, Recreation and Youth, Historic Resources Division, contacted Mr. Mushrow and carried out a short survey of the wreck. Following recommendations filed in their 1982 report, NMAS sought funds to conduct a full survey of the Isle-aux-Morts shipwreck. After securing funds from the Donner Canadian Foundation and the Explorer's Club in New York, NMAS gathered together an international team and prepared for a five week field season during late June and July.

Under the direction of nautical archaeologist Sheli Smith, a ten person field team gathered in Isle-aux-Morts. After a week of setting up, divers began the survey on July 1, 1983. Four weeks later on July 29 final sandbagging procedures closed the site until further excavations take place.

The goals of the project were simple and straightforward; (1) to define the extent of the site and (2) to ascertain the nature of the wrecked ship. Last summer's survey was the initial step in the research process which will ultimately answer these questions as well as more general questions pertaining to the ship's original mission and nationality. The maritime heritage of North America is an important but vaguely understood

dimension of the continent's history. The potential of information stored in the sands of Isle-aux-Morts provides us with a key to better understanding of past cultures, technologies, and the development of North America.

SITE LOCATION AND METHODOLOGY

For centuries, ships leaving the mainland of eastern Canada have traversed the Gulf of St. Lawrence and passed through Cabot Strait between Cape Breton, Nova Scotia and Port-aux-Basques, Newfoundland. Time and time again unfortunate ships have veered too close to the treacherous shoals and rocky coastline of southern Newfoundland. Their misjudgements often resulted in disaster.

It was in among some of these dangerous islands that Mushrow discovered the Isle-aux-Morts shipwreck, just off the modern town of Isle-aux-Morts, at the foot of the sheer southwestern cliffs of the largest island in the chain of Isle-aux-Morts (Figure 1) (cf. NMAS 1983). The wreck lies in 10 m of water at the bottom of a narrow gulch running almost parallel with the sheer cliffs. Similar east/west gulches run along either side of the site gulch.

After the ship settled into the gulch the steep rocky walls neatly defined the perimeter of the site. Over the ensuing years some pieces of the hull floated away while other succumbed to the ravages of time. Eventually the site was completely covered by sand except for the large cannon and anchors.

The cannon and anchors were what first caught Mr. Mushrow's eye and later revealed the orientation of the ship within the gulch to archaeologists. Most ship anchors were kept on deck in the bow. Additional anchors were tied off on either side of the bow and sometimes a small stern anchor was hung off the rear of the ship. Therefore, the presence of large anchors on a wreck site usually indicates the bow of a vessel. In the instance of the Isle-aux-Morts shipwreck four large anchors were found in close proximity to the easternmost end of the gulch. Considering the location of the anchors we assume the ship settled lengthwise along the long axis of the gulch; the bow facing east and the stern pointing west (Figure 2).

Once we established the lay of the ship we were ready to begin our survey. Each day, John Hardy Jr. transported our ten person crew to and from the site aboard the Sylvia Amanda, a 12 m Cape Breton fishing boat (Plate 1). During the day, the crew used the Sylvia Amanda as our base of operations. The ample storage space below the afterdeck held everyone's dive gear, air tanks and spare equipment. The afterdeck bustled with activity throughout the day as divers, pumps, and cataloguer vied for space. Divers entered the water over the side of the boat and returned via a retractable dive platform, temporarily affixed to the hull side. The boat was equipped with a spacious galley and pilot cabin which provided warmth and remission from the almost constant rain.

Our daily survey program was discussed among the staff each morning and a dive roster was drawn up. The teams were informed of their dive order and tasks. All diving was done in buddy teams of two or more divers. Each dive team was briefed before entering the water to ensure that they possessed the needed equipment to perform their assignments and that they were familiar with their tasks. The divemaster logged each dive in regards to time underwater, air consumed, diver identification and tasks performed. The length of the dive was determined by the first diver who reached 500 psi. When this occurred the teams assembled their tools and ascended. Once aboard the boat and sufficiently warmed up the divers were debriefed. Their statements were recorded on a diver's report form and later filed with their underwater notes.

As with all archaeology the mere presence of artifacts only tells a fraction of the story. It is the relationships of artifacts to one another and their context within the whole site that allows us to construct snapshot images of past lifeways. Each snapshot is then added to the series which build a moving image of our culture's change and evolution through time. Rarely are snapshots of the past redundant, so we must take special care to retrieve as much contextual information as possible.

This careful study demands rigorous measuring and documentation. In order to achieve our goals we set up physical lines on the bottom creating X and Y axes. All large artifacts protruding from the sand and all surface finds were plotted from these lines. For detailed positioning of artifacts below the sand surface a second system plotted

X, Y, and Z. The second or grid system was tied into the first system.

The longest line (31.2 m) or baseline lay along the east/west axis of the gulch. The baseline, a 30 m long plastic coated surveyor's chain marked at 1 m intervals, was secured between two 60 cm heavy iron stakes. At the eastern stake the baseline was fixed tight, while a float filled with air pulled the line taut through the stake ring at the western end. This was an arbitrary position for baseline or X axis.

After placing the baseline another line, the thwartline, was set up in the same manner transecting the baseline approximately midway along its length. The thwartline formed the Y axis. From these two lines any X and Y coordinates on the site could be determined. The lines also neatly divided the site into quadrants helping the divers orient themselves underwater.

Once our baseline and thwartline were in place we set about mapping the surface finds on the site. The southeastern quadrant, particularly near the cluster of cannon, was littered with loose timbers and floating leather artifacts. Each artifact was located in terms or X and Y coordinates. To quickly accomplish this feat underwater we relied on principles of geometry known as triangulation (Figure 3). Divers ran a tape measure from a given point on the baseline (Point A) to the artifact (Point C). The distance A-C was recorded as one side of a triangle. The divers endeavored to create an equilateral triangle by moving along the baseline a distance similar to the distance A-C and there establishing Point B. From Point B they measured to Point C. Later scale measurements corresponding to the lengths of each triangle side were swung with a beam compass on the site map. Point C was plotted where the arcs of AC and BC intersected. Together with a sketch of the artifacts, triangulation helped us document all the loose finds, as well as the cannon, anchors, and ship frames.

In conjunction with triangulating, the grid system was used to plot artifacts in the test trench (N1E14/S1E14). However, in the test trench the two coordinates X and Y were not enough. In order to continue our careful study of artifactual relationships once we went below the sand surfce we needed to add the coordinate Z. By adding Z, we could plot the location of each object in three-dimensional space. Obviously,

triangulation was inadequate for this task. Therefore, we adopted the well known land archaeology technique of an expanding grid system in conjunction with more geometric principles known as trilateration. Using the transect of our baseline and thwartline as our datum we devised an hypothetical, ever-expanding series of blocks. Each block is the same size (1 m x 2 m) and has its own description. The grid moves out north and south from the baseline in 2 m increments and in 1 m increments east and west of the thwartline.

The method for pinpointing artifacts inside the 1 m x 2 m grid required divers to measure the distance from the corners A,B, and C to the artifact (Figure 4). The known lengths of the grid sides in combination with the distance to the artifact formed an upside down pyramid. The mathematics used to figure the X,Y, and Z coordinates is more complicated than swinging arcs with a beam compass. The measurements A-artifact, B-artifact, and C-artifact were fed into a calculator program (Mazel and Riess n.d.). The program converted the divers' measurements into X,Y, and Z coordinates.

Thus the two systems of measuring enabled us to locate all artifacts on the site and accurately place them in situ. These systems in combination with probing and test excavation further allowed us to place them accurately in situ. These systems in combination with probing and test excavation further allowed us to define accurately the perimeters of the site and its stratigraphic and artifactual complexity.

Probing provided evidence concerning the extent and nature of the site without excavation. Metal T-shaped rods were used to probe through the sand and gravel. Divers used the probes to plot the extent of heavy timbers along the periphery of the site. To the south of the baseline divers began at the easternmost end and probed along the starboard hull working aft into the southwest quadrant. As the divers moved along probing the hull they marked the ends of frames with red-flagged bicycle spokes. A regular line indicating the extent of the site became clearly visible. The probing also furnished us with an approximate depth of the overburden. The maximum overburden in the southeast quadrant was 50 cm while in the southwestern quadrant the overburden reached depths of 1.5 m.

In the northeast quadrant, readily visible frame ends negated the need for probing. However, once the portside frames disappeared underneath the sand in the northwest quadrant divers resumed probing.

In conjunction with the probing a test excavation was placed across the bow of the site in the easternmost end of the gulch. Most of the excavation was performed with a hydrodredge. The dredge sucked up sand and small debris on the bottom. A net bag over the effluent end collected the tailings. At the end of each dive the bag was brought to the surface and sorted. By combined hand and dredge excavation, divers cleared a 1 m x 4 m x 1.14 m area across the bow.

On the last day of the survey all the exposed timbers and the test trench were reburied. Three hundred and fifty-seven 20 kg plastic masonry bags were filled with fine clean gravel. The eight tons of bagged gravel was placed atop the frame ends and open trench to reduce biological degradation while the site is not being explored. Sand bags in unison with a piece of seine net were also employed to cover the reburial site.

The reburial site, 5 m x 5 m in size, was located approximately 30 m south of the main site in an adjacent gulch. Due to the limited conservation facilities at present in St. John's and the small survey conservation budget, all artifacts either too bulky to transport easily or deemed too degraded to identify were placed in the reburial site. The site was then covered by the seine net and finally sealed with sand bags.

CATALOGUING AND CONSERVATION

The purpose of the 1983 expedition was to conduct a full survey of the site, and therefore retrieval of artifacts was not our primary goal. While a number of artifacts were retrieved from the site, they are much fewer than would be found in a full excavation. The artifacts raised during the survey were either found lying on the surface or excavated from the test trench and probing.

The NMAS cataloguing system reveals at a glance the site designation, the year of operation, material composition of the artifact, and accession order of each artifact within its specific composition category. A sample catalogue number of NM1483/10/082 indicates NMAS site 14 (NM14),

1983 (83). The number 10 indicates the artifact is wooden and 082 places the artifact in the accession order for wood.

All artifacts given a number were recorded on individual catalogue cards. In addition to the artifact number, the cards contained the object's name (if known), its date of retrieval, the divers involved and their log number, the artifact provenience, and a diagram of the artifact with dimensions. Later, the artifacts retained for conservation were photographed with number and scale. The roll number and negative number were then recorded on the related artifact card.

During this past summer's survey a total of 170 artifacts were retrieved and recorded. These artifacts were divided into 11 material compositions. Each composition was given a binomial numeric classification denoting the generic material composition and the specific composition of an artifact within the generic group. For example, where 2 represents the entire gamut of organic materials, 20, 21, and 22 denote the specific categories of textile, rope and oakum. The following table separates each of the categories defining the total number of artifacts within each category and its percentage of the entire collection.

COMPOSITION		NUMBER	PERCENTAGE
#10	Wood	96	54.47%
20	Textile	2	1.18%
21	Rope	6	3.53%
22	Oakum	1	0.59%
30	Metal	10	5.89%
40	Leather	31	18.23%
50	Ceramic	14	8.23%
60	Bone	4	2.35%
70	Glass	3	1.76%
80	Sulphur	1	0.59%
90	Concretion	2	1.18%

From the most abundant category, wood, 68 pieces were redeposited at the reburial site. Thirty-one of the redeposited pieces were fragments of ship structure while the remaining 37 consisted of cask staves and lids and pieces of dunnage. The rest of the wooden artifacts as well as the artifacts from all the other categories were secured in gauze bags with numbers attached on the outside and inside and placed in tanks

of water to await further conservation.

Several of the artifacts have been marked for testing. Three wood artifacts were kept for species testing and compression and saturation point tests. In addition, the oakum and scrapings from the inside of a cask stave were saved for chemical testing.

The conditions of the various artifacts selected for conservation differed. Whether these variations are solely the result of intrasite dynamics or the inherent characteristics of individual material compositions is not clear in all cases. This perplexity is best exhibited in our wooden and leather artifacts. Within these groups many artifacts displayed varying degrees of degradation.

ARTIFACTS

During this past summer's survey artifacts of elevent different material compositions were encountered. Within these types there are two basic divisions, those relating directly to the hull structure and those relating to life aboard the ship. The artifacts were recovered from either the surface of the site or excavated from the test trench. The only exception to this is the large metal pitcher removed from cannon #1's concretion. Those artifacts found on the surface may not reflect their original location aboard ship as these finds were continually moving with the current action on the surface.

Besides the fragments of hull structure, the predominant type of artifact found floating on the surface was leather. Fragmented leather boots abounded around the site. They consist of two leather soles, one very large and the other more form fitting. A heavy inner boot was built-up around the smaller sole then covered with a second thinner boot built-up around the larger sole. The boots were most likely knee-high fisherman's boots. In conjunction with the boots we also recovered fragmented shoes. A few of the shoes had built-up heels and are similar in size to the inner boot. All the soles were sewn to their uppers and the heels were attached with small wooden pegs.

On the surface we also found several ceramic fragments as well as a complete pitcher (NM1483/50/006) (Plate 2). Other fragments resemble the complete fluted chafing dish recovered in 1981. Pieces of a ceramic

bottle and a jar were also found on the surface. Both the chafing dish and pitcher are buff earthenware with a green interior glaze. This type of coarse earthenware has been found at the eighteenth century French site of Fortress Louisbourg, Nova Scotia and the seventeenth century French site of Fort Castine, Maine (Barton 1981). The ware is named for the region Saintonge in southern France. The small bottle is striped with blue, brown, yellow, and green slips. A clear glaze covers both the exterior and interior. Little is known about this ware although similar fragments have been found at Fort Castine. Faulkner and his colleagues have christened the type clownware, for its festive appearance (Alrica Faulkner n.d.: personal communication).

Within the test trench wooden, leather, and rope artifacts were predominant. However, metal, horn, and tusk were also recovered. Many of these finds reflect the spatial differentiation aboard ship.

Turned wooden trenchers and bowls found in the trench reflect the mess habits of the crew and the likely location of the galley. The bowls and trenchers are large enough to feed several men at one sitting. Slightly deeper in trench S1E14 excavators recovered the rim to a pewter plate or bowl. This is the only pewter artifact recovered in the bow to date. The lack of pewter in the bow suggests that the crew ate off wooden plates and dishes while the ship's officers ate their meals on pewter. The galley man was often located in the forepeak of a cargo or fishing vessel, away from the officers but near the food stores and berthing area for the crew.

In support of a forward galley, cask staves and heads were mingled with the structural pieces in the test trench. The cask staves are oak and range in length from 63.7 cm to 83.5 cm between croze. Most of the cask heads are the watertight variety and are approximately 62 cm in maximum diameter.

Underneath and around the wooden artifacts metal objects formed large concentrations. One of the wooden trencher fragments was concreted to a small cannon ball. The ball diameter measures 6.5 cm. Other long rod-like concretions lay strewn around the trench. The quantity of concreted materials in the bow area suggests a small shotlocker may have been placed below the galley in the bow.

A tar cask, a small tool handle, and a small piece of lead scrap reflect a bosun's storage compartment. This compartment may have also held some of the rigging parts found in the trench. Several block parts were recovered including a complete single block and two partial deadeyes. Both deadeyes exhibit wear suggesting they already had been replaced and were kept below in case of an emergency.

Two small partial jigger reels, a bone harpoon head, and several lead weights also found in the trench suggest that in conjunction with the shotlocker and bosun's compartment, a fishing locker was located in the bow. Recovered along with the fishing gear were two tusks. One has been identified as a walrus tusk but the other has not yet been identified.

Although the artifacts are few in number they are informative about the site. The artifacts found earlier by sport divers and those found this season floating on the surface at amidships appear to be part of the officers' belongings. The French copper pennies dated 1638 and the rare brass astrolabe dated 1628 also help narrow the possible time span in which the shipwreck could have taken place. However, neither the French nationality of the coins nor the Spanish inscription 'OY DYAS' on the astrolabe conclusively define the nationality of the ship. Yet the combined presence of the pennies and Saintonge ware may suggest a French ship.

From the test trench in the bow we have learned something about the mess habits of the crew and about some of the equipment used for fishing. Information gained from the trench has also enlightened us about the use of space aboard seventeenth century vessels.

Further excavation is the key to conclusively clarifying the nationality of the ship, the purpose of the voyage, and the spatial distribution aboard the vessel. This snapshot of mid-seventeenth century life is invaluable to scholars sorting out the vague chronologies of southern French pottery, and maritime and economic historians constructing histories of colonial North America, as well as the people of Canada whose rich maritime heritage is only recently beginning to emerge and take its proper place among the many histories of Canadian development.

THE HULL

After five weeks of survey a sketchy but accurate mapped outline of the Isle-aux-Morts wreck is complete (Figure 2). Conforming to the gulch the hull lies east/west along the long axis of the gulch. The total length of the hull is 26.5 m with debris further to the east underneath fallen boulders. The width of the hull varies. In the southeastern quadrant the starboard frame ends run close along the southern outcrop of rock increasing from 2 m south of the baseline at the eastern end of the gulch to 13 m south of the baseline at the gulch's center. At the thwartline, 14 m from the bow, the starboard side of the hull begins to curve north ending around the 26 m mark. Here the western end of the gulch begins to rise steeply. In the northern quadrants of the site the port frame ends begin only 1 m north of the baseline and run consistently close along the baseline. Divers probed aft of the thwartline following the port hull frames back to the 26 m mark where the frames suddenly ended.

Gauging from the lay of the exposed frames and the dimensions of the extant site, only thirty percent or less of the hull still exists. The eastern quadrants are covered by 5 cm to 50 cm of coarse sand. The overburden in the western quadrants is up to 1.5 m deep. Approximately 20 cm of sand is in constant motion over the entire site alternately exposing and covering different parts of the hull. Most of the port frames (P20-P68) are in excellent condition and show little sign of gribble damage. Their state of preservation suggests that they have been exposed only recently. During the 1982 survey these frames were not visible. Divers also probed to the north of the port frames and encountered a jumble of wood fragments and perhaps a small section of a fallen out hull. If the hull fallout is a recent occurrence it would contribute to the excellent condition of the port frame ends. In contrast, the starboard hull frames (S120-S165), although lightly covered with sand this past summer, are badly eroded. The amount of erosion suggests that they have been uncovered in the past and exposed to gribble degradation.

Working with the exposed sections of hull, opened test trench and surface finds we were able to piece together a substantial amount of information concerning the hull, superstructure, crew's belongings,

and eventual demise of the ship. Loose frame sections (futtocks and floors) found on the surface of the site exhibited several informative features. All the frames recovered were badly split and broken just at the point where they crossed the keel. The fractured state of these frames suggests a severe blow smashed the bow and dislodged the forward keelson and/or stem deadwood. The broken nature of the frame pieces recovered supports the idea that little of the bow is still intact.

Aft of the bow on both the port and starboard sides, the hull integrity is greater and the room and space between frames becomes clear. However, underneath cannon #4 and further astern under cannons #1, 2, and 3 the frames are tight together in groups of three. Whether this feature is extra support for the gun emplacements or added structure for some other hull requirement is not clear at this time.

Besides the exposed framing system two large fore-and-aft timbers were discovered. Both timbers are beveled on both sides and follow the inside curve of the hull. The timber on the north side has two complex dove-tail mortises cut into its northern face. The notches are 5 m apart with a scarf near the easternmost mortise. To the south of the notched timber a 5 cm ceiling alternates with thicker timbers, possibly stringers or foot wales. Although the large beveled timber on the southern side of the hull resembles the northern notched timber we did not find any dove-tail mortices on the exposed sections. Also the ceiling to the north of the large southern beveled piece does not alternate in size in the same sequence as its counterparts to the north. However, several interesting features were uncovered on either side of the southern beveled timber. To the north of the beveled timber a small box sits flush with the inside ceiling face and runs through to the outer planking. Staggered on frame west and just to the south of the beveled timber another identical box is set in. Their use is unclear. Also, fitting up against the southern beveled timber is a rider frame. The frame is above the ceiling and provided extra support for the hull.

Both large beveled timbers appear to be part of the ship's inner waling system. The accompanying thick timbers on the north side of the hull suggest a close proximity to the keelson while the southern

beveled timber is probably further up the starboard side. This information suggests that the Isle-aux-Morts shipwreck came to rest on her side protecting more of her starboard hull in the sand of the gulch. Over the years the hull deteriorated and began to conform to the gulch.

The information gathered concerning the hull is intriguing and raises many questions for future investigation. Although we have defined the port and starboard sides of the hull as well as the room and space of the framing we still do not fully understand where we are inside the hull. Our probing in the eastern half of the hull did not isolate the keelson. We do not know with any certainty how much of the bow and stern are still intact. Further knowledge concerning the size of the ship and the shipwrighting tradition that produced the vessel are questions whose answers are sealed in the sand of the Isle-aux-Morts gulch. Future excavations can construct a clear snapshot of many cultural facets poorly represented and understood in our present day histories.

RECOMMENDATIONS

In order to attain a fuller understanding of the Isle-aux-Morts site we recommend that a full investigation be carried out over the upcoming two years. The Isle-aux-Morts wreck is chronologically situated between two other well-studied Canadian sites, the Red Bay wreck, San Juan (1565) (Barkham 1978) and the Machault dating to 1760 (Zacharchuk 1972). Information recovered from the site will aid future studies of both terrestrial and nautical archaeology.

For 1984 we suggest a three-fold approach. First, efforts should be made to research thoroughly the artifacts already recovered in hopes of further defining the ship's nationality. Second, an archival search should be initiated in the suspected country of origin. Finally, a complete excavation of the forward half of the hull (14 m x 14 m) should be undertaken next summer.

Both the second and third phases of the study will require funding. The third task, excavation, will be by far the most costly. To maximize efficiency and keep costs down we suggest an eight week field season from mid-June to late July. This is the best season for diving on the southwestern coast. By utilizing this climatic window we will keep

our down time to a minimum.

Coordination of all the equipment and dive teams will require a well organized staff with well defined operational procedures. Positions for a director, two team leaders, two conservators, a cataloguer, an illustrator, a dive master, a cook, and a mechanic should be budgeted for the summer excavation.

The Isle-aux-Morts site presents an excellent chance for graduate students of archaeology, history, conservation, and biology to work with and publish primary data. We recommend investigating the possibility of field practicums for graduate students and a field school for undergraduates and/or graduates interested in field work.

These suggestions are aimed at proceeding with the exploration of the Isle-aux-Morts site in a timely manner. The site is well known and difficult to protect. In order to preserve the information at Isle-aux-Morts for all people the site must be professionally explored as soon as possible.

ACKNOWLEDGEMENTS

The success of the 1983 Isle-aux-Morts Survey is due to the combined efforts of many dedicated and generous people. Without their contributions, services, time, and advice our past summer's undertakings never would have been possible. Due to the need for brevity, listed below are the organizations and people who helped create a successful project.

Newfoundland Marine Archaeology Society
Donner Canadian Foundation
Explorer's Club, New York
Historic Resources Division, Department of Culture, Recreation & Youth, Government of Newfoundland and Labrador, David Mills, Assistant Director.
CN Marine
The Isle-aux-Morts Town Council and
The Townspeople of Burnt Island
Port aux Basques Integrated School Board, Grandys River Collegiate
Southwest Coast Historical Society
Boat captain: John Hardy Jr.

The Crew

Austin Baird	Bruce MacMillan
Diana Baird	Jonathan Moir
Trudy Baird	Ed O'Reilly
Janette Barber	Bruce Payne
Vernon Barber	Warren Riess
Dave Barron	Dick Swete
Pat Dabinett	Marjorie Warren
Dick Dunphy	Roy Wheeler
Mary-Alice George	Gary Wilansky
Thom Greene	Karen Yoke

NOTE

The complete field report for the 1983 Isle-aux-Morts Survey is available at the following address:

Newfoundland Marine Archaeology Society
P.O. Box 181
Station C
St. John's, Newfoundland
A1C 5J2

REFERENCES

BARKHAM, Selma
1978 The Basques; filling a gap in our history between Jacques Cartier and Champlain. Canadian Geographical Journal 96(1):8-9.

BARTON, Kenneth
1981 Coarse Earthenware From the Fortress of Louisbourg. History and Archaeology 55:18. Parks Canada.

MAZEL, Charles and Warren RIESS
n.d. The Phantom Pyramid. In Press.

NEWFOUNDLAND MARINE ARCHAEOLOGY SOCIETY
1983 A survey of underwater archaeological shipwreck sites on the Newfoundland coast. II The Burin Peninsula Isle-aux-Morts. Archaeology in Newfoundland and Labrador 1982, J. Sproull Thomson and Callum Thomson eds., Annual Report 3:195-203. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

ZACHARCHUK, W.
1972 The Restigouche Excavations: An Interim Report. International Journal of Nautical Archaeology 1:157-163.

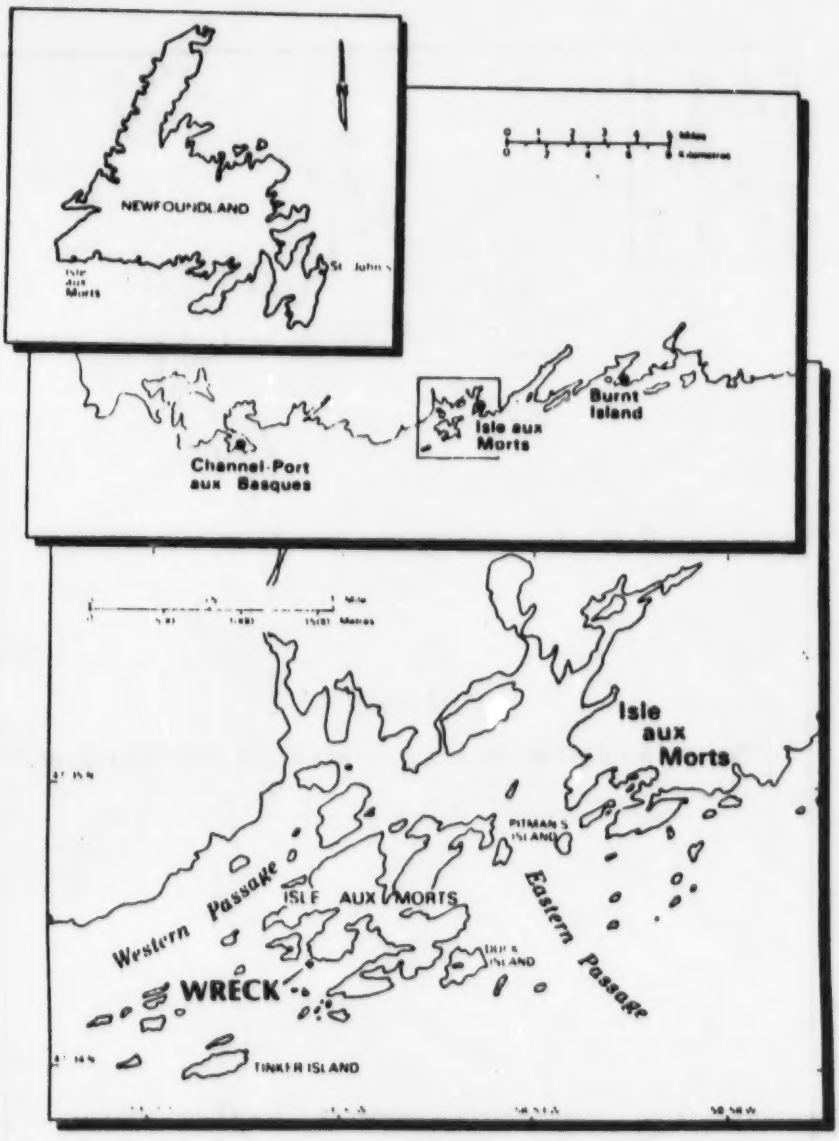
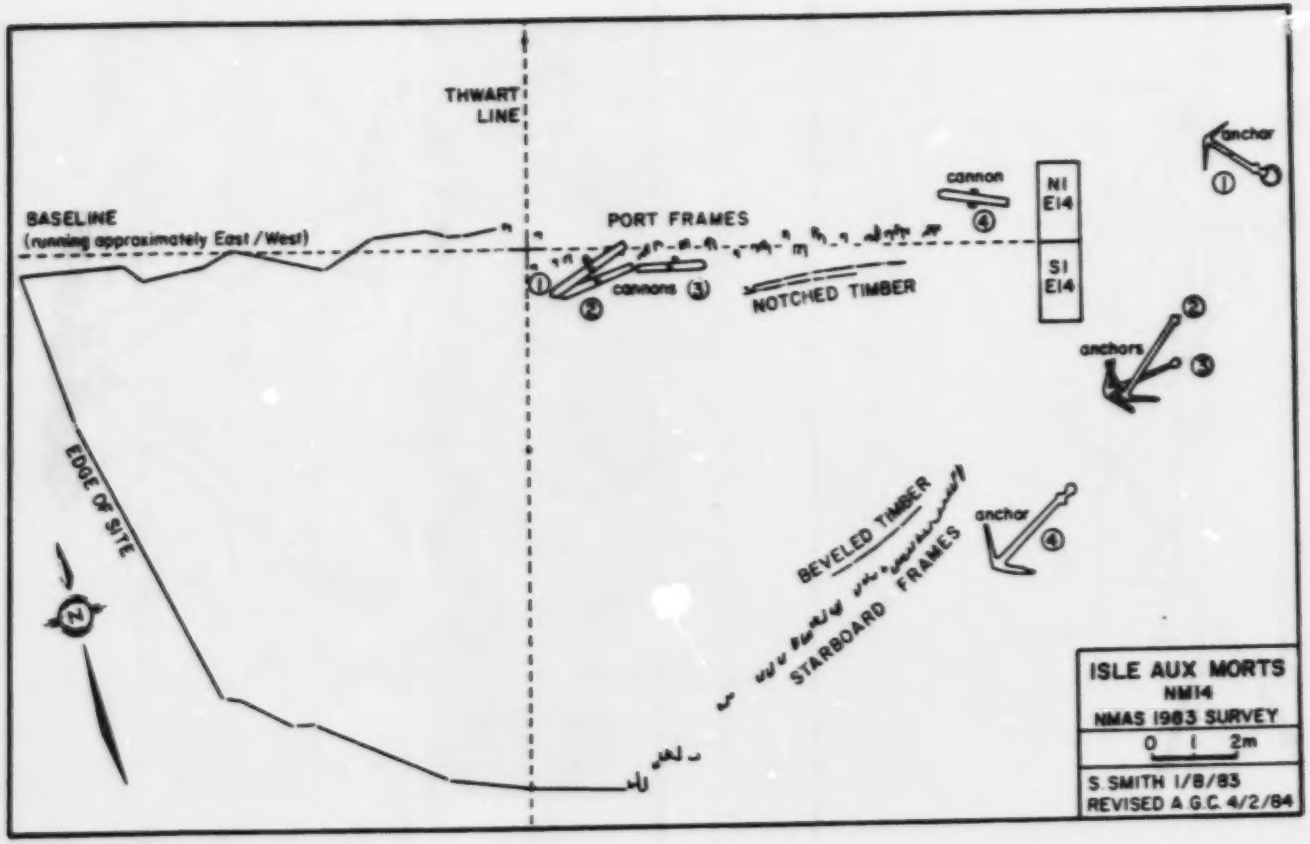


Figure 1

Isle aux Morts is located on the southwestern coast of Newfoundland near Port aux Basques. (Courtesy of MUN Cartographic Laboratory).

Figure 2

The ship settled in a gulch with its bow facing east


THWART LINE
BASELINE
(running approximately East / West)
PORT FRAMES
cannon
4
N1 E14
S1 E14
anchor
1
cannons 3
NOTCHED TIMBER
2
anchors
3
EDGE OF SITE
N
BEVELED TIMBER
STARBOARD FRAMES
anchor
4
ISLE AUX MORTS
NM14
NMAS 1983 SURVEY
0 1 2m
S SMITH 1/8/83
REVISED A.G.C. 4/2/84

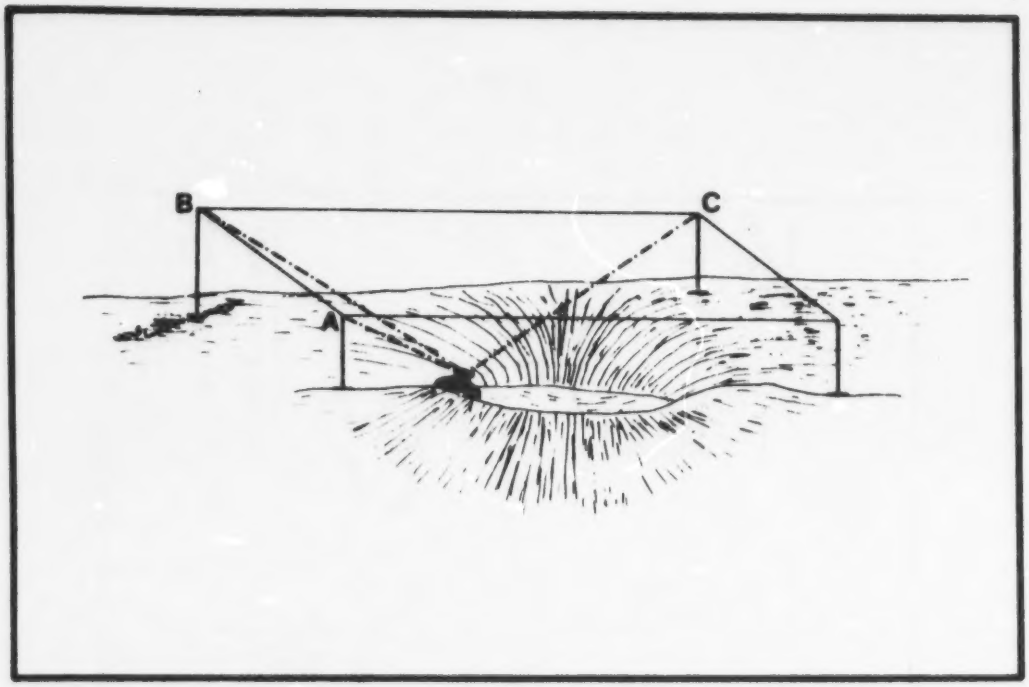


Figure 3 Triangulation was used to measure surface artifacts in situ.

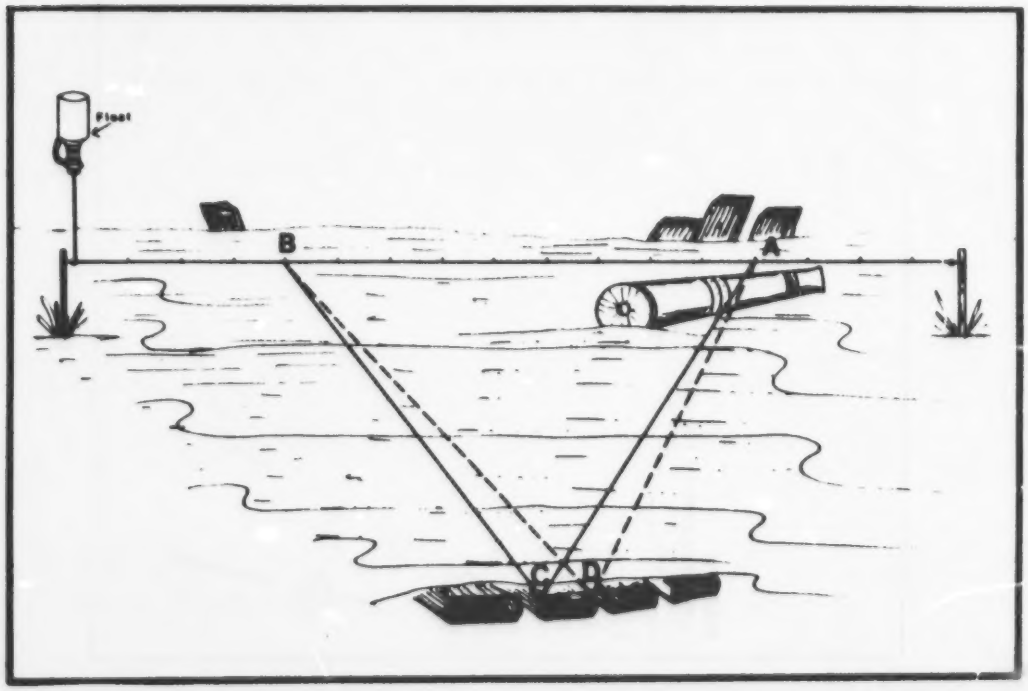


Figure 4 Trilateration was used to measure artifacts in situ found below the surface.

Plate 1 The crew was transported to the site each day aboard the Sylvia Amanda. (Photo by E. O'Reilly)

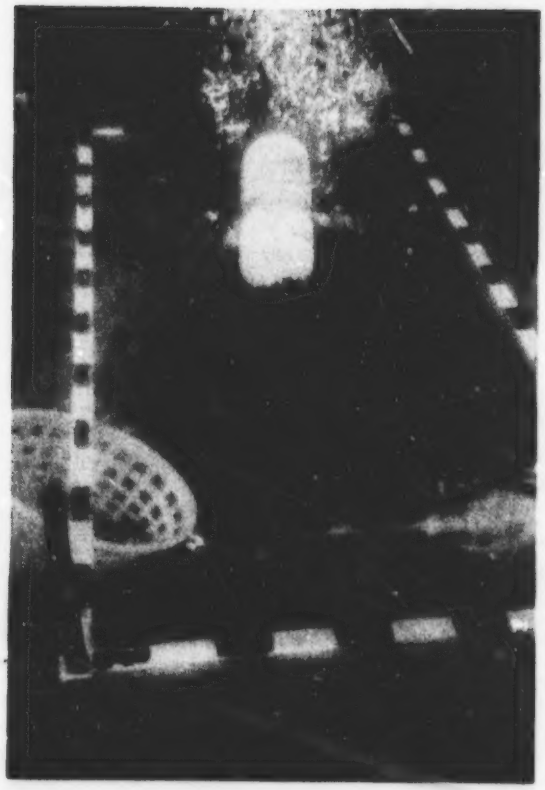


Plate 2 Diver using a hydrodredge to facilitate excavation.

Plate 3 Complete pitcher (NM1483/50/006) found on the surface and fragments of a chafing dish (NM1483/50/001). (Photos by J.M. Barber).

INDEX - 1980

A

Admiral's Pt. 80
Aillik-2 28,29,40
Akulialuk 48,54
Approach Pt. 38
Anchorstock Bay 45
Avayalik-1 9,48,59

B

Badger 3
bakeapples 6
Bar Pt. 79
Basque 75ff.
Bay d'Espoir 95,96,97,100
Bay de Vieux-1 98
Bay de Vieux-2 98
Bay of Islands 29,35
bear - brown 49
- grizzly, Arctic 49
- polar 10,11
Beothuck 5,88,91,93,97,100,101
blueberries 6
Bonavista Bay 93
Boreal Institute for Northern Studies 18
Bouverie 35
Brimball Storehouse W(1) 98
Bridge's Passage 37
Button Island 26
Burgeo 98

C

Cape Freels 93
Cape Nuvatannak 45
Cape Ray 98
caribou 6,11,31,32,35,42,48
Carroll Cove Hr. 75,76
Central Island 36
Challenger Cove 38
char 6
Chateau Bay 76,77
cobblestones 29
Coffin Island 45
Council, Conne River Band 95
crowberries 74

D

Davis Inlet 30,44
Deep Bight 62
Dog Islands 36
Dorset Eskimos 2,3,6,8,13-17,30 33,35-38,43,48-50,53-55,91,97, 99,100
-Early Dorset 6,9,11,12,17,30, 36,37,42,43,62,76
-Groswater Dorset 9,30,36-38, 42,50,52,64
-Late Dorset 5,7,8,11,15,36,43, 51,52,93
-Middle Dorset 5,7,9,11,12,15, 30,37,43,51,54,55,62,76
-Pre-Dorset 13,30,33,36-38,42, 52,5

E

eider ducks 6
Eskimos 31,33,38,52,78
-Neo-Eskimos 8,13,14,35,37,44, 45,
-Palaeo-Eskimos 42,51,92,93,97
Exploits River 4

F

fine grained cherts 10
Fisheries and Oceans, Department of 69
Fletcher Pt. 38
Fogo 3
Ford Hr.-4 37
forest-tundra 26
forest 27,40
fox 6
Freestone Hr. 30
Frenchman's Island 3,4,88,90,92, 93,101
Furbey's Cove 98

G

Gaultois 95
geese 6
Geology, Department of 69
Goose Bay 18
Goose Cove 79
grey clay 77
guillemot 6

H

Hamilton Inlet 26
Hare Pt. 38

Harp, E. Jr. 97,98
harp seal 33,42
Hebron 31,34,35
Hermitage Bay 95
Humby Island 37

I

Iluvektalik-1 37
Indian Pt. 93
Iglosiatik Island 39
Iglosiatik Island-1 39,44
Inuit 10,30,33,35
Island Cove 98
Isle Galet 98

J

K

Kamarsuk 43
Kaipokak Bay-1 28
Killinek 48
Kivalekh 63
Kiuvik Island 43
Koliktalik-1 54
Koliktalik 48,52,54
Koliktalik Bay 36, 37

L

L'Anse a Flamme 93,95,96,98,99,-100,101
Little Passage Complex 101
limestone 10
Lithothamniong growths 83
loons 6

M

Maidmonts Island 34
Maritime Archaic 9,10,28-31,33,-36,37,40,41,53,58,60,76,92,97,100
mica 15,39,41
Micmac 100
minke whale 6
Moores Island 45
Mount Pickle Hr. 30
Multa Island 39

N

Nain 31,34,38,43,48,49,53,54,55
Napaktok 34
Napakataktalik Island 30
Naskapi 33,38,44
nephrite 10,17,51,63
No Name Island 49,59
Norse 5,35
Notre Dame Bay 34,101
Nukasusutok Island 4
Nukasusutok Island 58,60,62
Nukasusutok-5 53,54,58
Nukasusutok-12 61
Nulliak Cove 31,33
Nulliak Cove-1 31,40
Nulliak Harbour 3,27
Nunaingok 48,54

O

Oakes Bay 36
O'Brien Farm site 2
Okak 26,27,43,44
Okak-1 48-50,53,55,56,62
Okak-2 63
Okak-4 63
Okak Bay 3
Okak Island 4
otter 6

P

Palaeo Indian 97
peat 91
Piccaire-1 98
Port Manvers Run 37
Point Peninsula 100
Point Revenge 43,44,93
Postville 3,27,28,40

Q

quartz 76,77,79
quartz crystal 9,10,30,45
quartzite 10,15
quartzite flakes 76,77
Questlet Island 36

R

Ramah Bay 32,43
Ramah chert 8-13,15,32,33,41,44,59,61,62
Ramea 98
Rattlers Bight 37,41
Red Bay 2-4, 69,75
Red Indian Lake 4
Reef Island 30

S

Saddle Island 69,70,73,75
Saglek 18,26,27

Saglek Bay 2,5,6
salt 83
San Juan 3,74
scallops 78
schist 9-12,17,50,51,63
Schooner Cove 69
sculpin 6
Sculpin Islands 27,35,50,53
seals 6,76
serpentine 15
Seven Islands Bay 37
shellfish 6
shrimp 6
Shuldham 13
Shuldham-6 12
Shuldham-9 7,11,17
Shuldham-14 11
Shuldham Island 2,4-6,34
slate 9,10,39,50,53,99
soapstone 9-17,30-32,34,39,45, 51,53,63
Spitsbergen 73

T

Terra Nova National Park 3
Thule 5,8,10,15,33,44,53,100
Torngat Archaeological Project 4,7
Tracey Beach 77
Trinity 3,4,78,80,83,84
Tunuyak 28

U

Ukasiksalik Island 30

V

Voisey Bay 39,44

W

walrus 6,10,54
Western Arm 76
whale 6,49,73,77
Wigwam Brook 93
Wintemberg 100
Wyatt Hr. 58,60

Site Borden Numbers

CjAx-1 95
CjAx-2 98
CjAx-3 98
CjAx-5 98
CjBg-1 98
CjBh-1 98
CjBh-2 98
CjBh-3 98
CkAx-1 98
HcCg-2 54
HcCh-7 58
HcCh-14 58
HjCl-1 49
HjCl-2 63
HjCl-4 63
IdCq-19 12
IdCq-22 7
IdCq-32 14
IdCq-34 14
IdCq-35 11
IdCq-44 14

A
Aillik 41-44
Aillik-2 42
Argentia 89

B
Badger Bay 152
Baie Verte 102,
Battle Harbour 39
Bay de Vieux-1 227
Bay de Vieux-11 227
Bay du Nord 1,232,233,235
Beaches site 198
bear,polar 73
Beothuks 2,159
Big Barasway 227,228,232
Big Falls 41
Big Island 9
Big Stock Cove 192
Burgeo 226,227

C
Cape Harrison 45
Cape Freels 2,161
Cape LaHune 231
caribou 102
Cartwright 35
Cat Arm 2
Chateau Bay 34,50
chert 192,195,198,212
Chimney Tickle 39,49,52
Coachman's Cove 91,92
cod 36
Conche 90,92,93
Conne River 226,233,234
Cornelius Island 229
Corner Brook 89
Cow Head 2,143,231
Cuttail Island 230

D
Devereux, H. 176,177,180
Dildo Run Provincial Park 157
Domino 37
Dorset 2,8,10,11,15,16,54,103,
117,190,193,213,215,227
Dry Pond Brook 2

E
Eastport 89
Eskimo - see Dorset, Neo-Eskimo,

F
Factory Cove 4,131,132,138,142
143,144,210,211,215,216
Fish Point Cove 35
fjords 34
Fleur de Lys 2,102-106,114,115,
117-120
flints 49,50
Flower's Cove 40
Fogo 152
Forteau 39
French Cove 4,95
Frenchman's Cove 4,160,198

G
gannets 38
Glovertown 89
Goose Bay 34
Grand Falls 176
Grandy's Brook 226-228,232,237
Green Island 34,35,38
Great Northern Peninsula 2
Groswater Bay 9, 35,37,52

H
Hamilton Inlet 51,52,53
harp seal 35,53
Hebron 41,42
Henby Island 50

I
Indian Harbour 37
Indian Hole 237
Indian Point 174,178
Indian Tickle 47
Indian Cove 227
Inuit,Labrador 7,39,49,53
Isle Galet 160

J
Jenness, D. 103

K
Keppell Island 40,50,52

L
Lake Michel 2
L'Anse a Flamme 160,198,229
La Scie 40

Late Dorset 5,7,8,10,11,12,14,17,18
Little Barasway 227,228,232
Little Passage 213,216,217,229,236
lobster 40
Long Harbour 232

M
Maidmonts Island 9
March,Mary 174
Maritime Archaic 7,32,39,44,45,54 119,159,190,195
Martinique Bay 90,92,93
Mary March Brook 175
Mary's Harbour 35
Melbourne 226
Micmac 233
Micmac-Montagnais 175
Middle Dorset 7,12
Middle Ridge 234
Millertown 175,183
Morgan Island 231

N
Nain 40
Neo-Eskimo 6,11,14,18,19
New World Island 157,158
Northern Peninsula 88
Northwest Course 94,97
Notre Dame Bay 152
Nulliak 41,42

P
Palaeo-Eskimo 6,18,39,44
Penguin Island 231
Pilley's Island 152
Placentia Bay 201
Point Revenge 7-9,16,45
Pt. Revenge Indians 7,8
Port au Choix 40
Port Saunders 40,50
Pre-Dorset 4,16,12

Q
quartz 115,214
quartz crystal 16,17,42,47
Quirpon Hr. 95,96

R
Ramah 9,138
Ramah chert, 8,9,16,17,38,49
Red Bay 2,4,62,68,161
Red Indian Lake 152
Red Indians 175
rhyolite 192,198
Rigolet 43
Rose Island 8

S
Saddle Island 62
Saglek 38,141
Saglek Bay 6,9
Saglek Fjord 8,16
St. John's 89
St. John's Harbour 16
St. Lunaire 90,96
salmon 34,36,48,107
Sandbanks 46,228,230
seal 39,48,147
sea trout 48
Shuldham-9 5,17
Shuldham Island 2,4,6
slate 192
soapstone 102,103,105-107,109,114 115,118
Southwest Course 93
Speck, F. 175
Spotted Island 35,37,52
spruce 42,46
Stock Cove 2,4,160,190-193,195,200 201,217

T
Terra Nova River 234
Torngat 40
Trinity 89
Trinity Bay 160,210
True Hill Bottom 236
tundra 34
Twillingate 153

U
Upper Burgeo 231-232

V
Vatcher Island 229

W
Warford's Brook 181
Webeck Harbour 45
whaling 37,56,73
Wheeler, R 92
White Bear Bay 232
Wintemberg 103

Site Borden Numbers

CjAx-1 229
CjBg-1 227
CjBh-1 227
CjBh-2 227
CjBh-3 227
CjBj-4 230
CjbJ-5 231
CjbJ-6 230
CjbJ-7 229
ClAl-1 210
DbAu-2 235
DbAw-1 236
DiAq-1 160
DiAq-2 160
DiAp-2 161
IcCq-8 16
IdCq-22 5
IdCq-45 15

1982

A

Aiiiik 3,12
Anaktalak 34,41
Aspen Brook 173

B

Back Arm 120
Barbace Cove 121,128
Barbace Pt. 121
Barkham, S. 103,197
barnacle shells 82
Bay d'Espoir 186,195,196
Beaches,the 60,62,133
bear,black 33
beaver 164,165,184
Belle Isle, Strait of, 100,101,118
Beothuk 173
Big Island 6,8,12,13,47
Big Island-9 14
Big Island East-1 11
Big Island East-2 11
Big Island East-3 12
Big Island East-4 12
Big Island East-5 13
Big Island East-6 13
Big Island East-7 13
Big Island East-8 13
Big Island East-9 13
Big Island East-10 13
Big Island East-11 13
Big Island East-12 14
birch 170
Bishop's Falls 162,166
Blanc Sablon 119,125,128
Black chert 13
Black flies 165
Bluebell Island 7
bog 57
Bonavista Bay 59,63,138,139
Boone Bay 63
Boyd's Cove 1,135,138,139
Brador 126
Broom Pt. 65-67,74
brown chert 121
Burin Pen. 196
Burnt Knaps-2 179-183
Burnt Pt. 59

C

Cape Bauld 123,124
Cape Freels-2 133
Cape Norman 123
Cape Riche 120,128
Cape Uivak 7
caribou 4,33,36
Cartwright, J. 138
Cat Arm 57
char 6,33,36
charcoal 121,136,164,168,186
Chateau Bay 100
chert 9,58,61,121,126,167
cobble hearths 40

coniferous forests 134
Conne River 179
Copenhagen 6
Corner Brook 57
Croney Island 197

D
Daniel Rattle 35,37,39,42,43
Davis Inlet 32,37,47
Deer Lake 57
Degrat Island-1 123,124
Devil's Cove 57
Dog Peninsula 122,128,138
Dog Peninsula-1 132
Dorset 121,126
Dorset, Late, 45
Dorset, Middle 59,60,61,63,65, 67,125
duck 121

E
Eastern Hr. 6
English Pt. 134,135
Eskimo-
Groswater (Palaeo) 9,61,64
Neo 10
Palaeo 1,3,8,10,41,61,64
Exploits River 161,162,172,173

F
felsites 40
Flower's Bay-1 55c
Flower's Cove-1 40
Flower's Cove-2 40
Fort Chimo 45
fox 6,163

G
Gargamelle 120
Goose Bay 4,19
Grand Falls 165,166,171,172
Great auk 84
Great Caribou Island 59
Great Northern Peninsula 119,128
Greenland 14
Greenspond 59
Gros Morne National Park 65
Groswater Bay 14

H
Hamilton Inlet 19,44,45,52
Harp, E. 118,120
harp seals 6, 62
hare 163
Haven, the 128
Hawkes Bay 120
Henry IV, King 96
High Kamarsuk 55c
Humber River 57

I
Indian 59,183
Indian House Lake 45
Indian Point 135
Inspector Island 133
Inuit 11,33,44,119,126
Iron Pyrites 138
Isle au Bois 125,128
Isle aux Morts 3,195,196
Isle du Bassin 126,128

J

K
Kamarsuk 34,41,43,56
Kangalasiorvik Bay-1 to 8 15
Kangalasiorvik Bay-9 to 17 16
Kangalasiorvik Is. 8
Kangalasiorvik L. 16
Kangalasiorvik R. 16

L
Labrador 3,44,47
Labrador Inuit 3,6,11,41,44
L'Anse aux Meadows 125
lemming 6
lichen 42
limestone 129
lithic 11,12
Little Passage 139
Little St. Lawrence 198
Lodge Bay 58
loon 33

M
Maritime Archaic 3,14,18,22,24 28,38,
Marshland 57
Marten 183
Martijn, C. 118,125,127
Mary March 173,174
Mary's Hr. 158

Merrifield Bay 35,39
Micmacs 138,186
Middle Bay 176
Middle Ridge 179,184,186
Millertown 173
mink 165
moose 165-167,179
moss 167
Mortier 197,198
Morue Spit 120

N

Nachvak 7
Nain 19,32,34,37,39,44
Nangassat 120
Naskapi 34,41
Newfoundland Museum 6
Nimrod's Pool 170
Noel Paul's Brook 163,164
Noel Paul's Brook-1 176
Noel Paul's Brook-2 167
Noel Paul's Brook-3 167
North Angle 170
Northwest Gander River 179
Northwest River 41
Notakwanon Delta 45
Nothing Bay 35
Notre Dame Bay 63,134,138
Nova Scotia 118

O

Okak 6
Okpatik Bay 35
Old Fort 119,129
Onion Cove 123
otter 6

P

Philip's Garden 121
Pigeon Cove 1,125
Pistolet Bay 119,120,128
Postville 33,42,43,47
Point Revenge 40,42,43
Point Revenge Indians 3,10
Pointe Riche 119,120
Pope's Point 162
porcupines 34
Port au Choix 119,120,127
Port Saunders 119,120,128
ptarmigan 163

Q

Quirpon 128
Quirpon Island 123,135
quartz crystal flakes 11,14,55c
60,67
quartz 40

R

Ramah chert 12-14,18,39,41,44,
139,158
Rattlers Bight 38
Rattling Brook 162,173
Recent Indian 61,63,64
Red Bay 2,25,74,84,85-87,95,100
Red Indian Falls-1 to 5 169
Red Indian Lake 161,162
Rose Island site 4,19

S

Saddle Island 84,95,100,104
Saglek 8
Saglek quartzite 13
St. Barbe 123
St. John's Hr. 6
St. John's Island 120,121
St. Paul's 127
St. Pierre 182
salmon 57
Salter, E. 20
Samson, G. 45,51
Sango Bay 35,37,42,43,44,46
Sango Brook 43
Sango Mountain stream 43
sand 196,197
Sandy Cove-2 14,19
San Juan 86,94
Sarqaq 14
Satasoak 41
Savage Cove 123
seal 11,33,47
Shambler's Cove 59,61,64,68,70,72
shellfish 6
shells 134
shrub 122
Shuldham 5,10
Shuldham-9 3,4,9
silt 67
slate flakes 11
Slaughter Island 162,170
soapstone 6,125
Solomon Island-1 48,55c
Solomon Island-2 47,55c
Solomon Islands 37,47,48,50

South Exploits 162
Southwest Gander River 162
spruce 170
steatite 55c
stoneware 183

T
Takpanayak Bay 34
Tasialuk 35
Tent Ring 4
Terra Nova River 179
Thalia Pt. 41
Thule Eskimos 3,7,45
Tides Cove Pt. 197
Trinity Bay 63,138,139
trout 165
Two Mile Island 162,169
Two Mile Island-2 170
Two Mile Island-3 170

U
Ungava 6
Upernavik Island 19

V
Voisey Bay 34,36,37,44,46
Voisey Bay-1 46,55c

W
walrus 11,122
West Arm 166
whales 6,100,122
White Bay 57
White quartzite 11
Windy Tickle 46
Wintemberg 119
Wolf Island 45
Wyman Brook 135

X

Y

Z
Zoar 34

Site Borden Numbers

GlCe-3 40
GlCe-4 40
GlCe-5 48,55c
GlCe-6 47,55c
GlCg-5 45
GlCh-1 43
HbCl-3 55c
HbCj-4 55c
IdCp-17 11
IdCp-18 11
IdCp-19 12
IdCp-20 12
IdCp-21 13
IdCp-22 13
IdCp-23 13
IdCq-22 3,4,9,28,45,47,48
IdCq-49 14
IdCq-50 14
IdCq-51 14
IdCq-54 14,28
IdCr-25 to 32 15
IdCr-33,34 16

1983

A
acidity 56
Alllik 6-47, 51
anchor 147
antler 89
arrow 23
astrolabe 142,151

B
baleen 56,57,79
bark 103
Basque 70-81
Bay of Islands 14
Beaches, the 107
beads 101,102
bear 74,99
beaver 20,99
Belle Isle, Strait of 1,55,75
Beothuk 1,4,17,87,98-109
berries 88
Big Island 15,48-54
Black Bay 55,58
Black Island 13,19
bone 56,57,74,80,82,103,106,148
Boyd's Cove 1,4,98-125

C
C.H.I.N. 1
cannon 143,153
canvas 103
caribou 15,49,51,88,129
cemetery 70,74-76
ceramics 56-58,71,73,74,79,80,
101,142,148,150
chert 12,22,88,126-130,138
chronology 8-9,10,11,15,17,
19,50,55,58,106,107,154
climate 24,126
cod 88
concretion 149
conservation 70,147,155
copper 20
cormorant 99

D
Delabarre 27
disease 77
Donner Foundation 155
Dorset 12,14,15,27,48,49,85-97,
127-131,138

E
eider 99
Englee 130
erosion 18,58,85,90
Exploits River 99,101,104
Explorer's Club 155

F
falcon 15
feathers 80
fence, caribou 18,20,27,35,43,51
Fleur de Lys 1,5,85-97
flint 56,57
flotation 131
fluting, tip 128
forest, boundary of 9,23
fox 15,49,58,74
French 102,142,150,151
fur 99

G
Garnet Point 27
glass 56,101,152
goose 15,99
Gravel Pond 129
Great Northern Peninsula 130
Groswater Bay 6,13
Groswater Palaeo-Eskimo 27
guillemot 99

H
Hamilton Inlet 9,57,127
Harp Peninsula 23
harpoon 23,77,151
hawk 15
Hebron 9,10,18,21,23,52
hollow, sleeping 103,104
hydrodredge 147,161

I
I.S.E.R. 131
Indian Point 106
Indian, Recent 98,127
Innu 82
Inspector Island 124

Inuit 6,12,19,27,48,49,55-58,79
iron 58,80,100,107
Island Harbour 27
Isle aux Morts 1,'42-166
Isthmus 27,127
Iterungnek Fjord 19
ivory 56,89

J
jaeger 99
Jaeger Island 14
Jens Haven Island 15
Jerusalem Harbour 18

K
Kaipokak Bay 7
Kangalasiorvik Island 15

L
L'Anse Amour 12
L'Anse aux Meadows 5
lead 56,71,76,80,100,151
leather 80,148-150
Little Passage 1,107,122,124,129, 130,131,140
longhouse 6-47,49,51
Long Point 129
loon 99

M
Machault 154
Maritime Archaic 1,6-47,48-54,87
marten 99
Micmac 90,102
mid-passage 18
Mikkitok Lake 18
Montagnais 102
Monument Point 13,20

N
N.I.P. 1
nail 56-58,71,74,76,79,100,101
Nain 9,10,15,19
Neo-Eskimo 14
nephrite 12,13,27
Nettleship 15,27
Notre Dame Bay 98,127
Nulliak Cove 6-47

O
oakum 152
Okak 10,15,127
oldsquaw 99
otter 99

P
P.A.R.I.S. 2
Palaeo-Eskimo 7
partridge 88
Penny Hook Cove 12
Petro-Canada 24,51,52
petroglyphs 90
pewter 154
pipe, clay 56-58,79,101,102^R

pithouse 6,7,10,11,50, 102
population, estimates of (M.A.) 9,11
Port au Port Peninsula 1, 126-141
Port-aux-Basques 142
Pre-Dorset 10,14,15,18,21-24, 27,46

Q
quartz 8,128
quartzite 16,17,50

R
Ramah chert 6,16,20-23,49-51,128
Rattlers Bight 6-47
Red Bay 1,4,12,55,70-81
Red Indian Lake 4,5
red ochre 16
relationships, cultural 21-24
rope 148

S
S.S.H.R.C. 70,108
Saddle Island 72,78,80
Saglek Bay 1,4,9,15,21,48-54,127
salmon 88
Sandy Cove 13,19
San Juan 80,154
Saunders 14
seal 48,56,72,73,79,86,126,129
Seal Cove Point 13,19
settlement pattern 18
shell 77,98,102,106
shipwreck 142-162
Shuldham Island 48
sina 14,27,48
skin 103,104

slate 16,128
smelt 99
soapstone 16,17,20,52,58,67, 79,85-97,128,130
Sop's Island 88
Spanish 151
Square Island 12
Sri Lanka 4
St. George's Bay 128
Stock Cove 131
stress, social 23
subsistence 11,21,48,88,99,126,131
sulphur 148

T
textile 76,148
Thule 27
tile 71
Tombolo 27
Torngat Archaeological Project 19
tourism 93
trade 23,24,57,59,89,99,100,102
triangulation 145,159
tryworks 70-73,79
Twin Island 55-58,63,65,78-80

U

V
vandalism 92-94

W
walrus 48,151
watercraft 4,22,49,77,89,102
waterlogged site 80
whale 49,55,57,70,75-80
wigwam 103,104
Wigwam Brook 99,101,106
Windy Cove 18,19
Windy Terraces 18
Wiseman's Cove 58,69
wood 17,20,22,56-58,70-80,89, 103,148-151

X

Y
YM-YWCA 3,4

Site Borden Numbers

DiAp-3 111
DiAq-2 124
DdBq-1 127
DdBq-2 127
DdBq-3 129
DeBq-1 129
EeBa-1 130
EkBc-6 63
EkBc-11 69
FlAw-1 27
FlBf-1 27
GeBn-1 13,27
GgBt-1 7
GgBv-27
GhBt-1 10,29
GhBt-3 7,10,31,33
GhBt-4 7,10
HbCf-1 27
IaCo-1 27
IaCp-16 27
IaCr-1 27
IbCp-20 9,10,35,37
IbCp-25 27
IbCq-5 27
IbCq-6 27
IbCq-7 27
IbCr-1 27
IbCr-2 27
IcCq-9 27
IdCp-1 51
IdCp-18 51
IdCp-23 50
IdCq-1 51
IdCq-6 51
IdCq-8 51
IdCq-47 51
IdCq-48 50
IdCq-50 51
IdCq-51 51
IdCq-54 49
IdCq-55 49
IdCq-56 49
IdCq-57 49
IdCr-40 27
IdCr-41 27
IdCr-42 27
IdCr-43 27